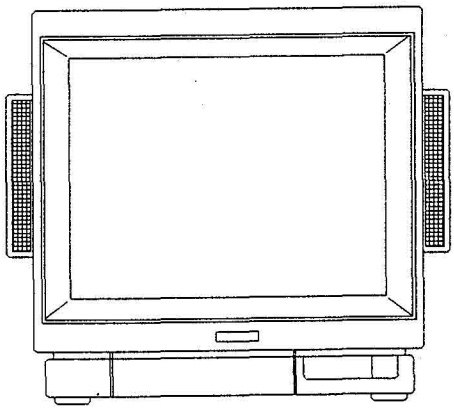
SAMSUNG Electronics

SERVICE MANUAL

MODEL: CX5325W
CHASSIS: P-88MT (MTTS2)

COLOUR TELEVISION RECEIVER



SPECIFICATION

Television System	PAL - B/G , SECAM - BG
Receiving Channel	VHF : 2 - 12 , CATV : 74 - 76 , 80 - 89 UHF : 21 - 69
Intermediate Frequency	Picture I-F Frequency : 38.9MHz Sound 1 I-F Carrier Frequency : 33.4MHz Sound 2 I-F Carrier Frequency : 33.16MHz Pilot Carrier Frequency : 54.6873KHz Colour Sub-carrier Frequency : 34.47MHz
Picture Tube	54HGB99X - ITC
Power Requirements	160 - 260V , 50Hz
Power Consumption	110 WATT
Speaker	Impedance : 8 Ohm , 5W + 5W
Features	P88MT & RM104 REMOCON SYSTEM

SAFETY CAUTION :

Before servicing this chassis, it is important that a service technician reads and follows the "Safety Precaution" and "Product Safety Notice" in this Service Manual.

* For continued X-radiation, replace the picture tube with original type.
* Design and specifications are subject to change without prior notice.
* WARNING-SHOCK HAZARD - use isolation transformer when servicing.

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SAFETY INSTRUCTIONS

WARNING : BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION", "PRODUCT SAFETY NOTICE" AND "SERVICE NOTICES" DESCRIBED BELOW.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often unnoticed in the process of vidual inspection and the protection afforded by many electrical and mechanical parts cannot necessarily be obtined by using replacement components rated for higher voltage, wattage and etc. The replacement parts which have these special safety characteristics are identified in this manual and its supplements ; electrical components having such features are identified. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create a shock, fire, X-ray radiation or other hazards.

SERVICE NOTES

1. When replacing parts or circuit boards, clamp the lead wires to the terminals befores soldering.
2. When replacing a high wattage resistor (oxide metal film resistor) in the circuit board, keep the resistor10mm (1/2 in.) away from the circuit board.
3. Keep the wires away from high voltage or high temperature components.
4. If any Fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The normal value of the high voltage of this receiver is 28KV at zero beam current (minimum brightness). The high voltage must not, under any circumstances. exceed 28.5KV. Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage should be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY RADIATION on this TV receicer is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type as specified in the parts list.
3. Some parts in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE.

SAFETY PRECAUTION

WARNING : The service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver The following are the necessary preautions to be observed before servicing.

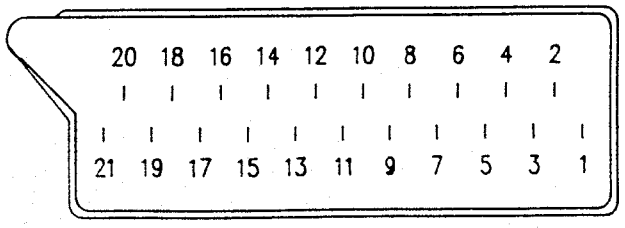
Since the chassis of this receiver is directly connected to the AC power line – (Hot chassis), an isolation transformer should be used during any dynamic service to avoid the possible shock hazards.

1. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use the shatterproof goggles and keep the picture tube away from the bare body while handling.
2. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as : non-metallic control knobs, in-suating covers, shields, isolation resistor-capacitor network etc.
3. Before returning the set to the customer, always pre-check the AC leakage current on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheards, metal overalays, control shafts and etc. To be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohm per volt or more sensitivity in the following manner. Connect a 1500 ohm 10 watt resistor, patalleled by a 0.15uf, AC type capacitor, between a good earth ground (water pipe, conduit etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15uF capacitor. Reverse the AC plug at the AC outlet and repeat The AC voltage measurements for each exposed metallic part. The voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2 milliamp AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

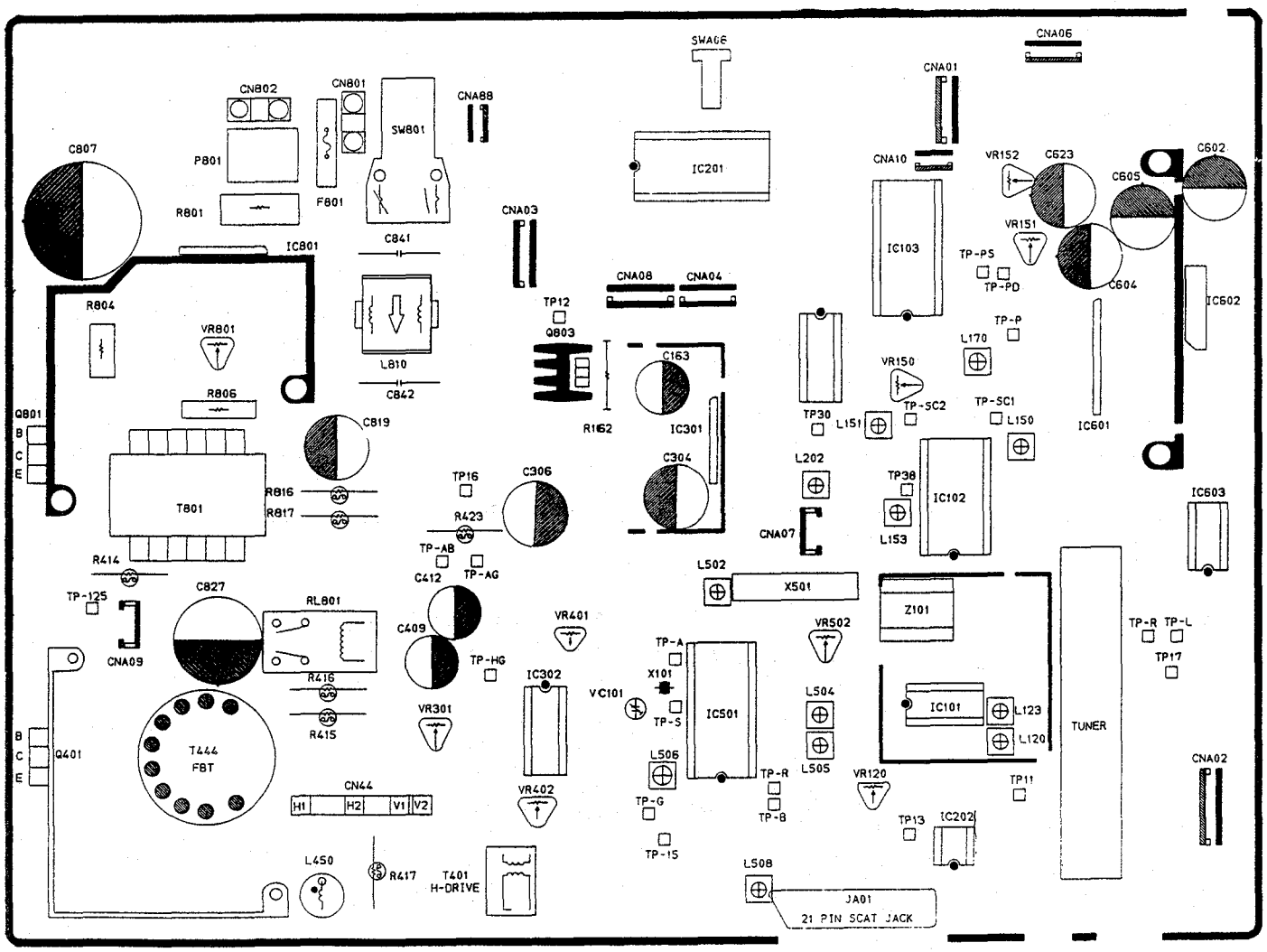
PIN CONNECTION OF EURO-AV SOCKET

If you wish to connect peripheral equipment to your TV set, your dealer will be able to make the standard correct using the table below.

PIN	CONNECTION	PIN	CONNECTION
1	Audio output R	12	---
2	Audio input R	13	Red earth
3	Audio output L	14	---
4	Audio earth	15	Red input
5	Blue earth	16	Status RGB (fast blanking)
6	Audio input L	17	CVBS earth
7	Blue input	18	RGB status earth
8	Status CVBS	19	CVBS output
9	Green earth	20	CVBS input
10	---	21	Socket earth
11	Green input		



PARTS LOCATION DIAGRAM



INSTALLATION AND SERVICE ADJUSTMENTS

1. GENERAL INFORMATIONS

All the adjustments are thoroughly checked and corrected when the receiver leaves the factory. Therefore the receiver should operate normally and produce proper colour and B/W picture upon installation. However the minor service adjustments may be required depending on the particular location in which the receiver is operated. This receiver is shipped completely in carboard carton. Carefully draw out the carton and remove all the packing materials.

Plug the power cord into a convenient two pin power outlet. Turn the receiver ON and adjust the fine tuning for the best picture detail.

Check and adjust all the customer controls such as BRIGHTNESS, CONTRAST and COLOUR Controls to obtain natural colour or B/W picture.

2. AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that the extenal degaussing after moving the receiver is normally unnecessary, providing the receiver is properly degaussed upon installation. The degaussing coil operates for about 1 second after the power to the receiver is switched ON. If the set is moved or faced in a different direction, the power switch must be switched off at least 10 minutes in order that the automatic degaussing circuit operates properly.

If the chassis or parts of the cabinet becomes magnetized and cause poor colour purity, use an external degaussing coil. Slowly move the degaussing coil around the face-plate of the picture tube, the sides and the rear of the receiver and slowly withdraw the coil to the distance of about 2m before disconnecting it from the AC source. If the colour shading still persists, perform the COLOUR PURITY ADJUSTMENT and CONVERGENCE ADJUSTMENTS procedures, as mentioned later.

3. HIGH VOLTAGE CHECK

CAUTION : There is no HIGH VOLTAGE ADJUSTMENT on this chassis. But B+ power must be adjusted in +125V under the full colour bar pattern and normal picture control level.

1) Connect an accurate high voltage meter to the second anode of the picture tube.
2) Turn on the receiver. Set the BRIGHTNESS and CONTRAST control to minimum (zero beam).
3) The high voltage should be measured less than 28.5KV.
4) Rotate the BRIGHTNESS and CONTRAST control to the both extremes to be sure the high voltage does not exceed the limit of 28.5KV under any conditions.

4. HORIZONTAL OSCILLATOR ADJUSTMENT

If there is an indication of unstable horizontal sync, adjust the HORIZONTAL HOLD control (VR401) to remove the condition. When you adjust the Horizontal Hold control, you should connect TPHG and TPG1 for the H-oscillator adjustment.

5. HORIZONTAL PHASE ADJUSTMENT

If you want to move the center of picture, adjust HORIZONTAL phase control (VR402).

6. VERTICAL HEIGHT ADJUSTMENT

The SIZE control(VR301) on the main board changes the size of the picture, having an equal effect on the top and the buttom.

7. SCREEN ADJUSTMENT

1) Tune in an active channel.
2) Make the picture normal condition (no blooming or no-flyback line) with the VR screen.

8. FOCUS ADJUSTMENT

Adjust the FOCUS control on FBT for well defined scanning lines in the centre area of the screen.

9. R-F AGC ADJUSTMENT

1) Tune the set in the strongest station in your area.
2) Turn the AGC control (VR120) on the IF board to fully clockwise position.
3) Adjust the AGC control until noises (snow) dissappear from the screen.

10. APC ADJUSTMENT

1) Receive the colour bar pattern.
2) Connect TP-A to TP-G with jumper.
3) Control the Trimer VC101 in the main PCB to got the colour.

11. COLOUR PURITY ADJUSTMENT

NOTE : Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes. Purity adjustment requires Rubber Wedge kit.

1) Demagnetize the picture tube and cabinet using a degaussing coil.
2) Turn the CONTRAST and BRIGHTNESS controls to maximum.
3) Receiver the green colour pattern.
4) Loosen the clamp screw holding the yoke, and slide the yoke backward or forward to provide vertical green belt (zone) in the picture screen.
5) Remove the Rubber Wedges.
6) Rotate and spread the tabs of the purity magnet (See Fig.3) around the neck of the picture tube until a green belt is obtained in the centre of the screen.

And at the same time, centre the raster vertically by adjusting the magnet.

7) Move the yoke slowly forward or backward until a uniform red screen is obtained. Tighten the clamp screw.
8) Check the purity of the red and blue raster.
9) Tighten the clamp screw of the yoke temporarily.
10) Obtain a white raster ; referring to the "CRT WHITE BLANCE ADJUSTMENT".
11) Proceed with convergence adjustment.

12. CRT WHITE BALANCE ADJUSTMENT

1) Tune in an active channel.
2) Set the colour control to minimum.
3) By rotations the RED and blue drive controls (VR550, VR551) clockwise from minimum, Set them to the mid-position.
4) Adjust the blue and RED drive control (VR550, VR551) to obtain proper white-blanced picture a high area.

13. CONVERGENCE ADJUSTMENTS

NOTE : Before attempting any convergence adjustment, the receiver should be operated for at least fifteen minutes.

Centre Convergence Adjustment

1) Receive the crosshatch pattern with a colour bar signal generator.
2) Adjust the BRIGHTNESS and CONTRAST Controls for a well defined pattern.
3) Adjust the two tabs of the 4-pole Magnets to change the angle between them (See Fig. 2) and superimpose the red and blue vertical lines in the centre area of the picture screen. (See Fig. 2).
4) Turn the both taps while at the same time keeping angle constant and superimpose the red and blue horizontal lines at the centre of the screen. (See Fig. 3).
5) Adjust the two tabs of 6-pole Magnets to superimpose the red/blue line and green one. Adjusting the angle affects the vertical lines and rotating both magnets affect the horizontal lines.
6) Due to the interaction between these adjustments the steps 3,4 and 5 should be repeated until the satisfactory results are obtained.

CIRCUMFERENCE CONVERGENCE ADJUSTMENT

1) Loosen the clamping screw of deflection yoke to allow the yoke to tilt.
2) Put a wedge as shown in Fig. 1 temporarily. (Do not remove the cover paper on adeshive part of the wedge).
3) Tilt front of the deflection yoke up or down to obtain better convergence in circumference. (See Fig. 3) Push the mounted wedge into the space between the picture tube and the yoke to fix the yoke temporarily.
4) Put the other wedge into bottom space and remove the cover paper to stick.
5) Tilt the front of the yoke right or left to obtain the convergence in circumference. (See Fig. 4).
6) Keep the yoke position and put another wedge in either upper space. Remove the conver paper and stick the wedge on picture tube to fix the yoke.
7) Datach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
8) After fixing three wedges recheck overall convergence. Tighten the screw firmly to fix the yoke and check the yoke is firm.
9) Stick 3 adeshive tabs on wedges as shown in Fig. 1.

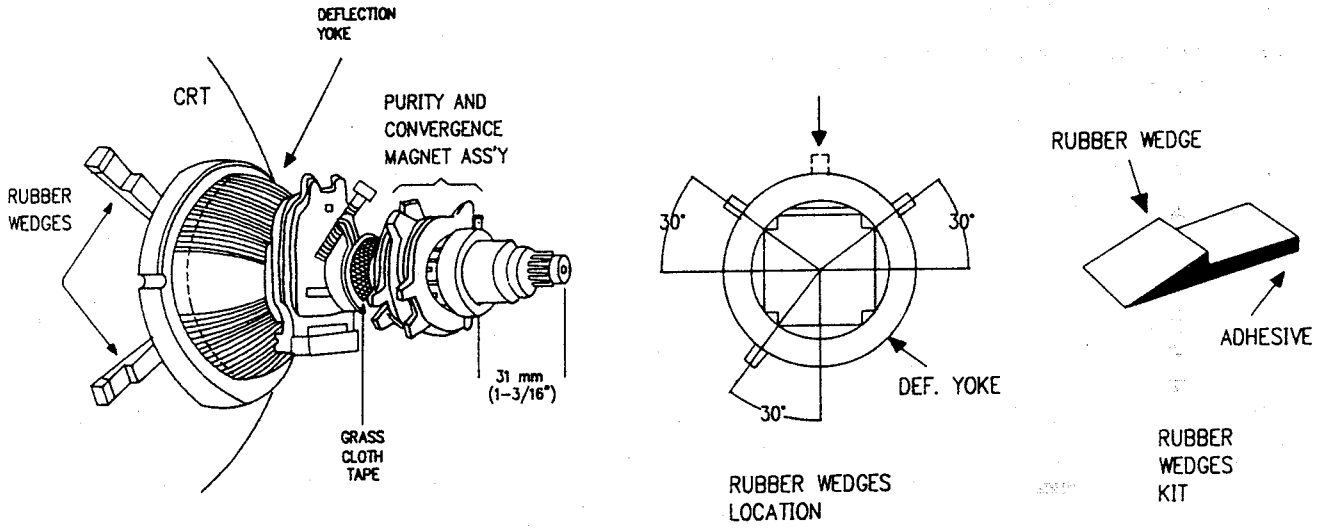


Figure 1 TUBE ASSMEBLY

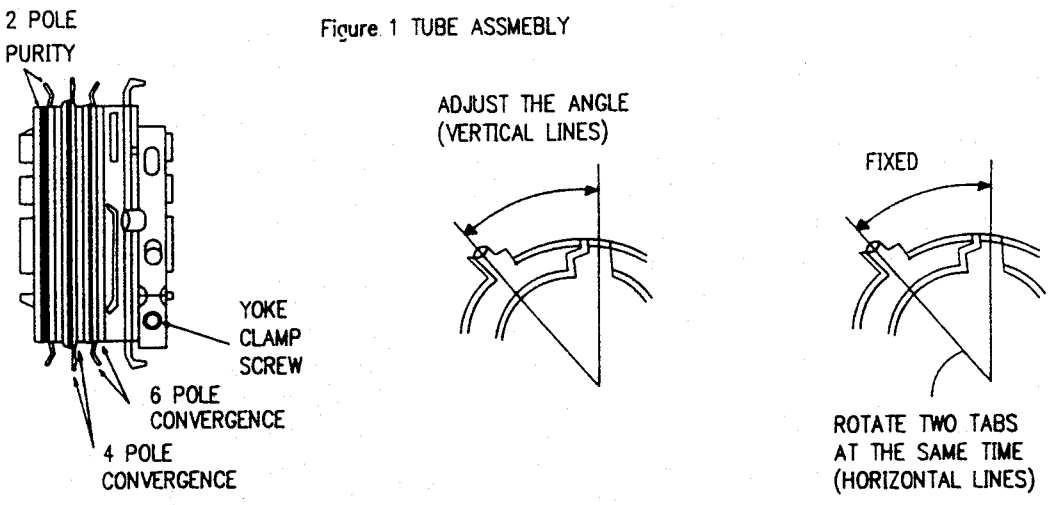


Figure 2 PURITY AND CONVERGENCE MAGNETS

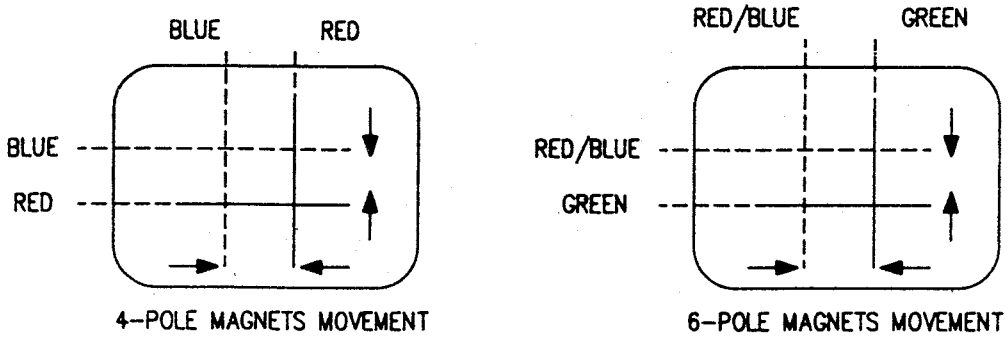


Figure 3. Dot Movement Pattern.

GENERAL ALIGNMENT INSTRUCTIONS

A. GENERAL

The alignment is an exacting procedure and should be undertaken only when necessary.

The test equipments specified or its equivalent is required to properly perform the alignment procedures which are outlined on the following pages. The use of equipment which does not meet these requirements may result in the inability of properly aligning in the receiver.

It is essential that the bias values as specified are maintained, while the alignment insures the proper results.

B. EQUIPMENT TERMINATIONS

The alignment pads are designed for correct matching of the equipment to the circuits involved. The failue to the proper matching will result in the responses which cannot be depended upon as representing the ture operation of the receiver. The pads should be constructed as compactly as possible with all the unshielded leads not being in excess of 2.5cm long.

C. SIGINAL OVERLOAD

Since the large excessive of the sweep generator causes the overloading of receiver circuits, first, the output of the sweep generater set to zero and then gradually increase the output until a response is obtained. Further increase of the sweep output should not change the configuration of the response except in amplitude. If the response changes in configuration, for example, flattening at the top or dropping below the base line at the botton, decrease the sweep output to restore the proper configuration. The oscilloscope gain should be as high as possible to maintain a useable pattern with the peak-to-peak values specified, thus requiring a lower output from the sweep generator and less chance of overload.

The insertion of makers from the marker generator should not cause the distortion of the response.

D. TEST EQUIPMENTS

1) PAL/SECAM PATTERN GENERATOR (PM5518)
2) OSCILLOSCOPE.
3) DC power supply (DC range : 0-10V,0-20V)
4) Matching pad.
5) Probe (which impedance is 75 ohm)
6) TV MULTI SOUND GENERATOR
7) BNC TO DIN JACK
8) BNC TO BNC CABLE
9) DIGITAL VOLTMETER

1. VIDEO DETECTOR ALIGNMENT

1.1 Setting

1.1.1 PM5518 : Crosshatch pattern of 38.9MHz.
1.1.2 DC power supply : 12V
1.1.3 Oscilloscope : 50mV/DIV, 0.5uSEC/DIV, 10:1 probe.

1.2 Preparation

1.2.1 Connect the DC power supply probe to TP-12 of main pcb.
1.2.2 Connect the RF out of the PM5518 with the direct probe to the IF pin of the TUNER.
1.2.3 Connect the 10:1 probe of oscilloscope to TP11

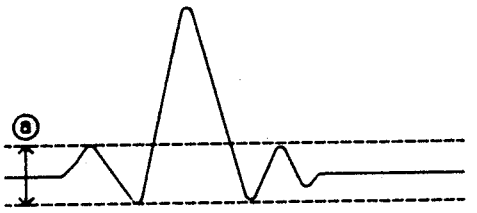


Figure 4 2T PULSE

1.3 STEPS

1.3.1 Adjust the VIDEO DET. coil (L123) to equalize the ⓐ level.

2. AFT ADJUSTMENT

2.1 Setting

2.1.1 PM5518 : Multiburst pattern of 38.9MHz
2.1.2 DC power supply : 12V
2.1.3 Digital voltmeter : 10V range

2.2 Preparation

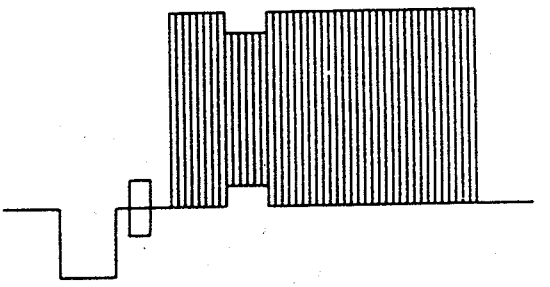
2.2.1 Connect the DC power supply probe to TP-12 of the main pcb.
2.2.2 Connect the digital voltmeter probe to TP-17 of the main pcb.
2.2.3 Connect the RF out of the PM5518 with the direct probe to the IF pin of the tuner.

2.3 STEPS

2.3.1 Adjust the L124 until the digital voltmeter is to be 6V.

3. GROUP DELAY ALIGNMENT

1) Receive the crosshatch pattern of 217.25MHz with the PAL pattern generator.
2) Set the signal gain of the pattern generator to be maximum (about 75 - 85dBuV).
3) Connect the oscilloscope probe (using 10:1 probe) to TP-11.
4) Adjust the upper core of tuner so that the amplitude of multi-burst signal is flat. (See Fig.)



4. APC ADJUSTMENT

1) Receive the colour bar pattern with PAL colour bar generator.
2) Connect the terminal TPA to the terminal TPG with the short jumper wire.
3) Adjust the APC control (VC101) so that the colour bar pattern stands still vertically or drifts slowly across the picture screen (See Figure 5).
4) Remove the short jumper wire.
5) Check that the colour apperars with in 0.5sec when changing the channel to another.
If the colour appears slowly or the colour sync is not normal, retouch the colour sync Trimmer (VC101) for the proper colour display.

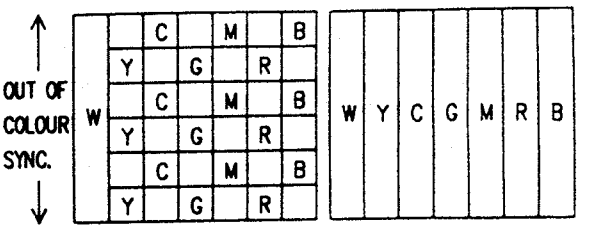


Figure 5

5. COLOUR MATRIX ADJUSTMENT

1) Receive colour bar pattern with colour bar pattern generator. (Figure 6-1)
2) Set the Contrast, Brightness, Colour controls to the normal position.
3) Connect the oscilloscope probe to TP-B.
4) Adjust VR502 so that the part ⓑ and part ⓒ (Blanking level) are on the same level. (See Figure 6-2)
5) Adjust L502 (DL matching coil) so that part ⓐ and part ⓒ (Blanking level) are on the same level.
6) If the venetion blind effect appear after this adjustment repeat the above step 4, and 5.

MAGENT	BLUE	YELLOW	GRAY	GRAY
GRAY				

Figure 6-1

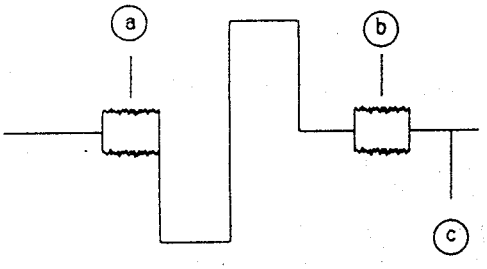


Figure 6-2

6. CHROMA TRAP ADJUSTMENT

1) Receive Red pattern of the PAL pattern generator.
2) Connect the oscilloscope to TP-30.
3) Adjust L202 until the amplitede A of the Red signal is minimum (See Fig. 7).

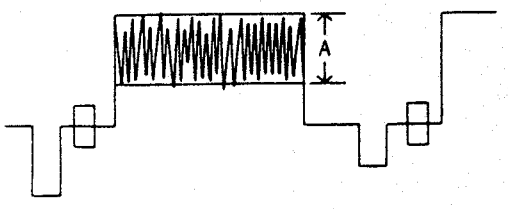


Figure 7

7. SECAM IDENTIFICATION ADJUSTMENT

1) Receive the SECAM colour signal with SECAM pattern generator.
2) Connect the oscilloscope prove (high impedence, 100:1) to the TP-S.
3) Adjust L506 to obtain the maximum D.C. voltage.

8. R-Y, B-Y DEMODULATION ADJUSTMENT

1) Receive the SECAM colour bar signals.
2) Connect the oscilloscope probe to terminal TP-R.
3) Adjust L504 such that the level of the black and white are in accordance with the blanking level (See Fig. 8-1)
4) Then change the oscilloscope probe to terminal TP-B.
5) Adjust L505 such that the level of the black and white are in accordance with the blanking level (See Fig. 8-2)

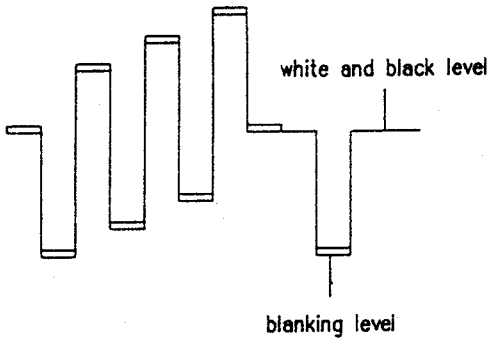


Figure 8-1

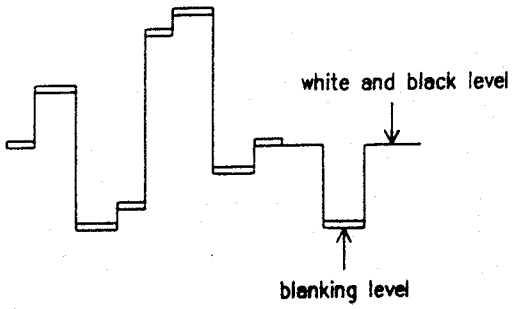


Figure 8-2

9. BELL FILTER ADJUSTMENT

1) Receive the SECAM colour bar signals.
2) Connect the oscilloscope probe to the terminal TP-15.
3) Adjust L508 for the flat level of amplitude in each colour bar wareform on the scope (See Fig. 9)

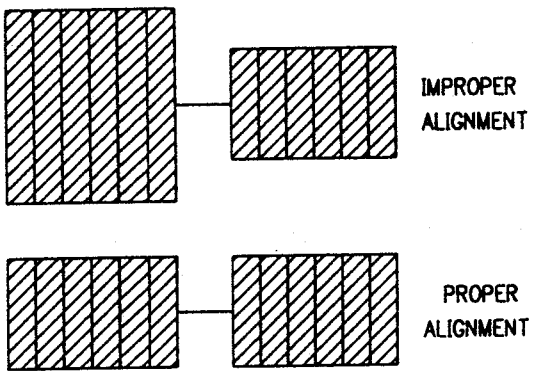


Figure 9

MULTI SOUND ADJUSTMENT

1. SIF DETECTOR ADJUSTMENT

1) Receive the colour bar signal and STEREO SOUND by Fig. 10.
2) Connect the oscilloscope probe to the terminal TP-38.
3) Adust L153 until the amplitude A of the colour bar signal is minimum (See Fig. 11)

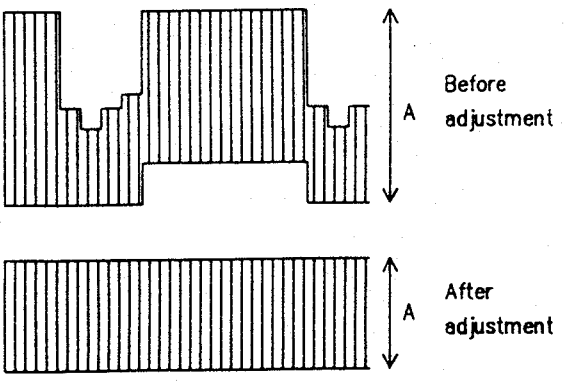


Figure 11

1) Connect the Video out on PAL PATTERN GENERATOR to the Video on the TV-Multi-SOUND GENERATOR with BNC to BNC cable.
2) Connect the RF output on the TV Multi-SOUND GENERATIO to the antenna input on the TV set with BNG to DIN jack.
3) Since only R sound signal with pilot carrier should be transmitterd, select not (R+L)/2, L or DUAL, but R with pilot carrier signal and set the stereo mode.

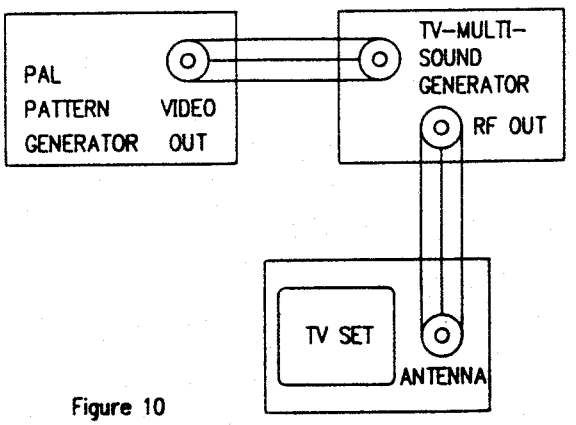


Figure 10

2. SC1, SC2 DETECTOR ADJUSTMENT

1) Receive the colour bar signal and stereo sound.
2) Connect the oscillscope probe to the terminal TP-SC1.
3) Adjust L150 until the amplitude A is maximum.
4) And, connect the oscilloscope probe to the terminal TP-SC2.
5) Adjust L151 until the amplitude A is maximum (See Fig. 13).

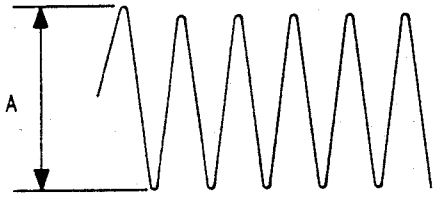


Figure 13

3. PILOT DETECTOR ADJUSTMENT

1) Receive the colour bar signal and stereo sound.
2) Connect the oscilloscope probe to the terminal TP-P.
3) Adjust L170 until the amplitude A of pilot warform is proper (See Fig. 14).

(Before) Adjustment

(After) Adjustment

Figure 14

4. STEREO IDENT ADJUSTMENT

1) Receive the colour bar signal and stereo sound.
2) Connect the oscilloscope probe to the terminal TP-PS.
3) Adjust VR151 until the amplitude A of Fig. 15 is maximum.

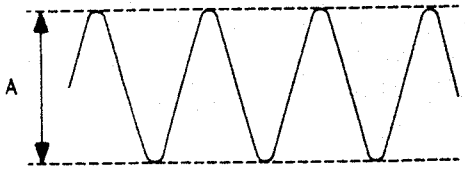


Figure 15

5. DUAL IDENT ADJUSTMENT

1) Receive the colour bar signal and dual sound.
2) Connect the oscilloscope probe to the terminal TP-PD.
3) Adjust VR152 until the amplitude A of Fig. 16 is maximum.

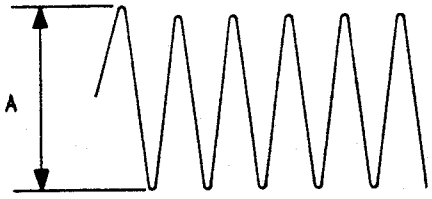
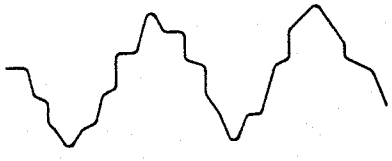


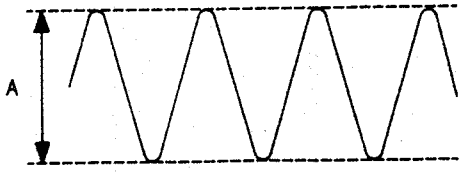
Figure 16

6. SOUND SEPERATION ADJUSTMENT

1) Receive the colour bar signal and stereo sound.
2) Push the Auto Stereo switch (SWA07).
3) Connect the oscilloscope probe to the terminal TP-L.
4) And, Connect the oscilloscope probe to the terminal TP-R.
5) Adjust VR150 to be no distortion of R,L signal (See Fig. 17).



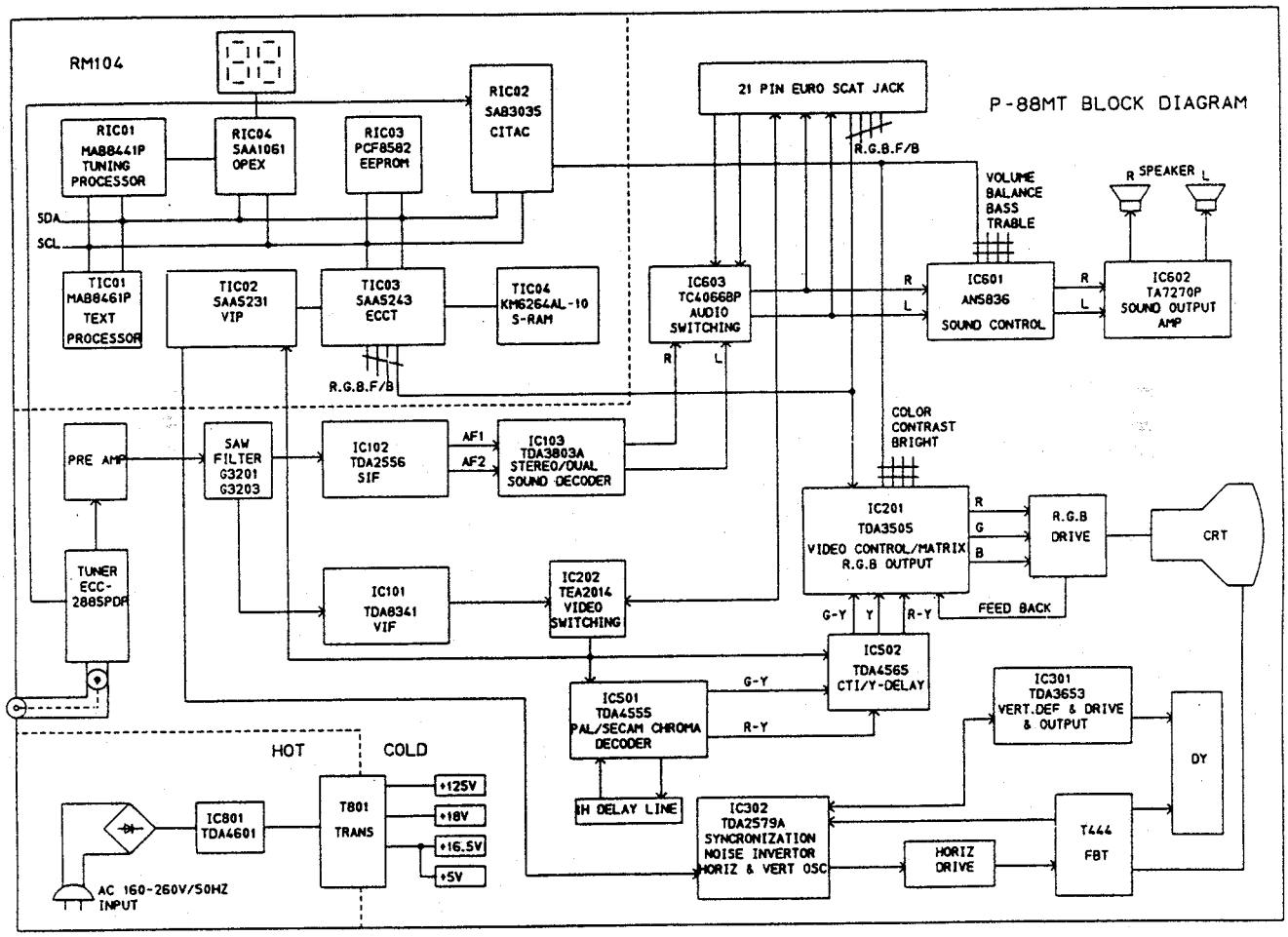
Before Adjustment



After Adjustment

Figure 17

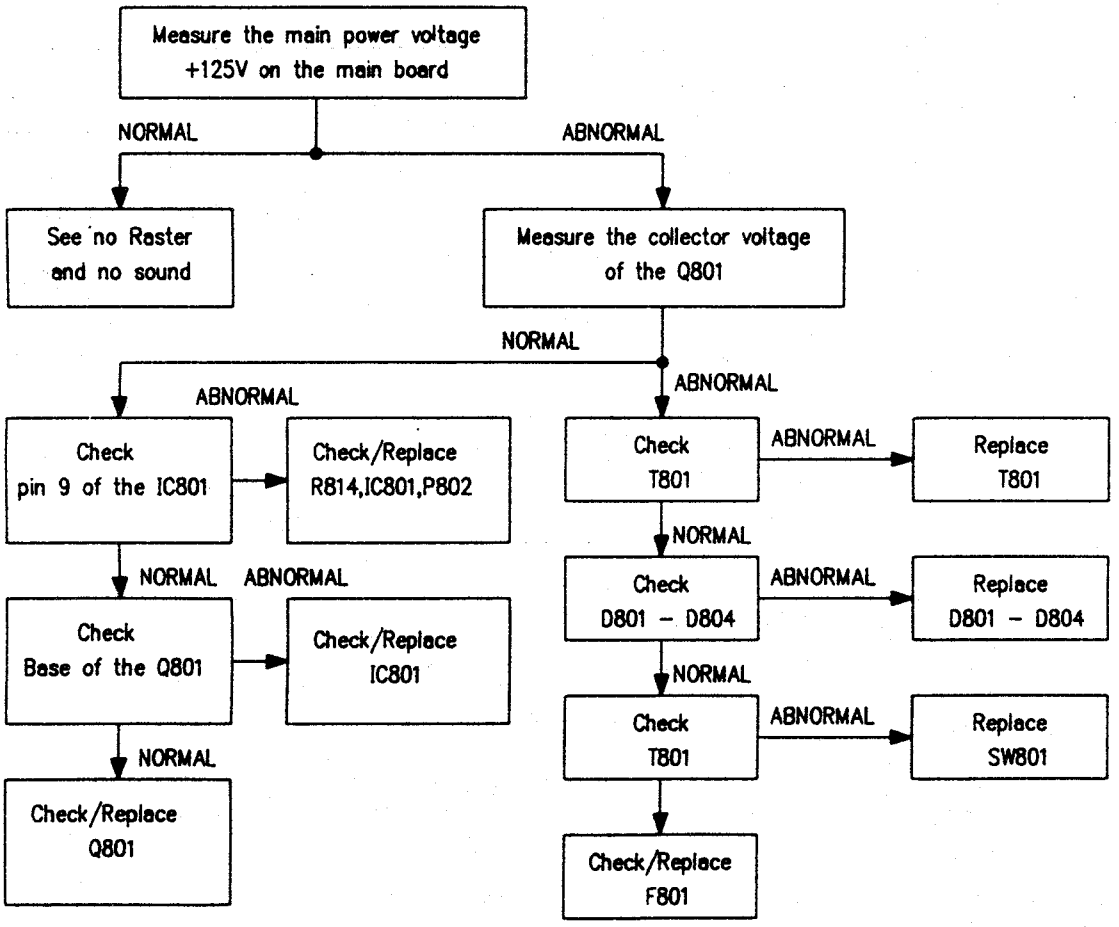
CHASSIS BLOCK DIAGRAM



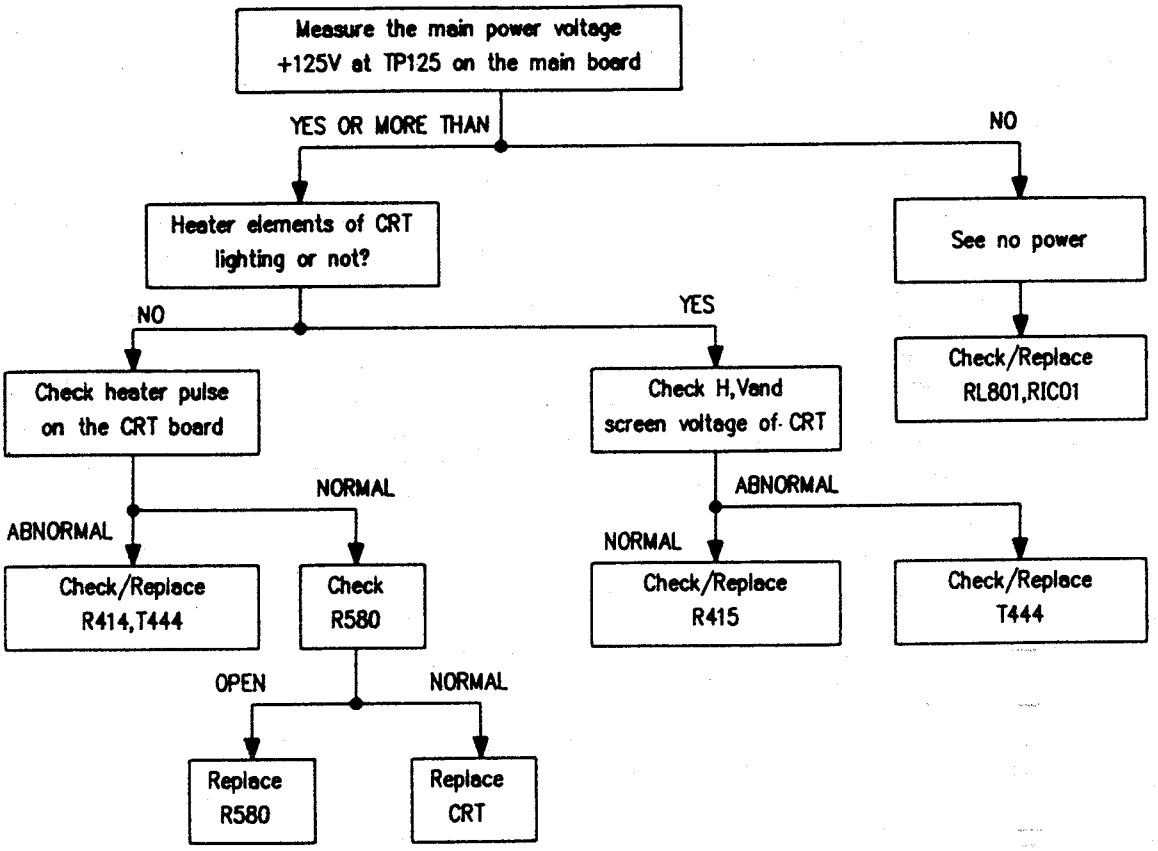
TROUBLESHOOTING CHARTS

The following charts are devoted to troubleshooting which, if followed carefully, will assist you in tracking down a fault to the correct stage.
In order to utilize the charts (fault trees), first establish the complant, e.g.–NO Raster, NO Sound.
Locate the chart applicable and then progress through the various alternatives until a final block indicates the defective components or stage.

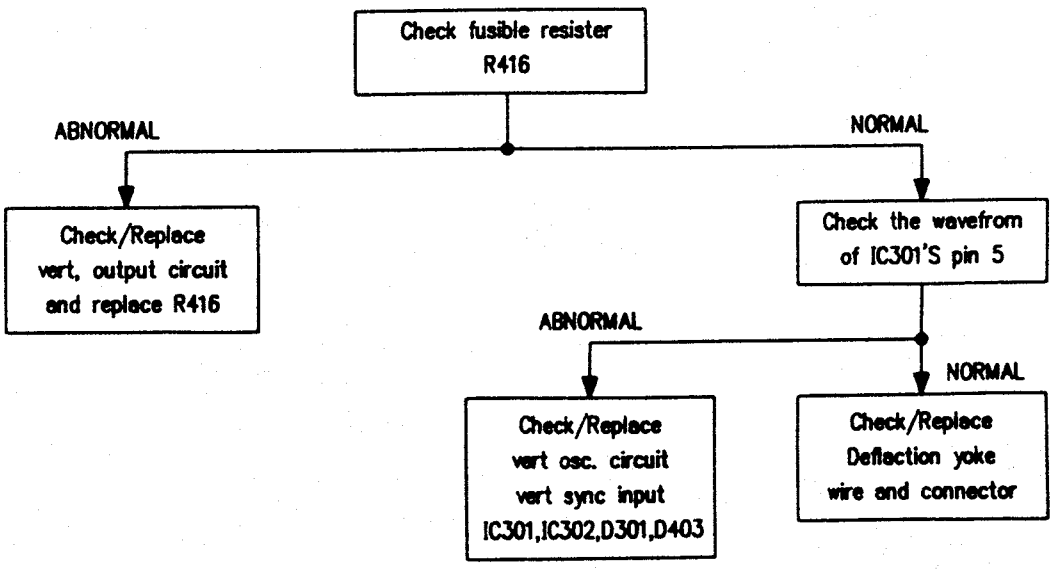
NO POWER



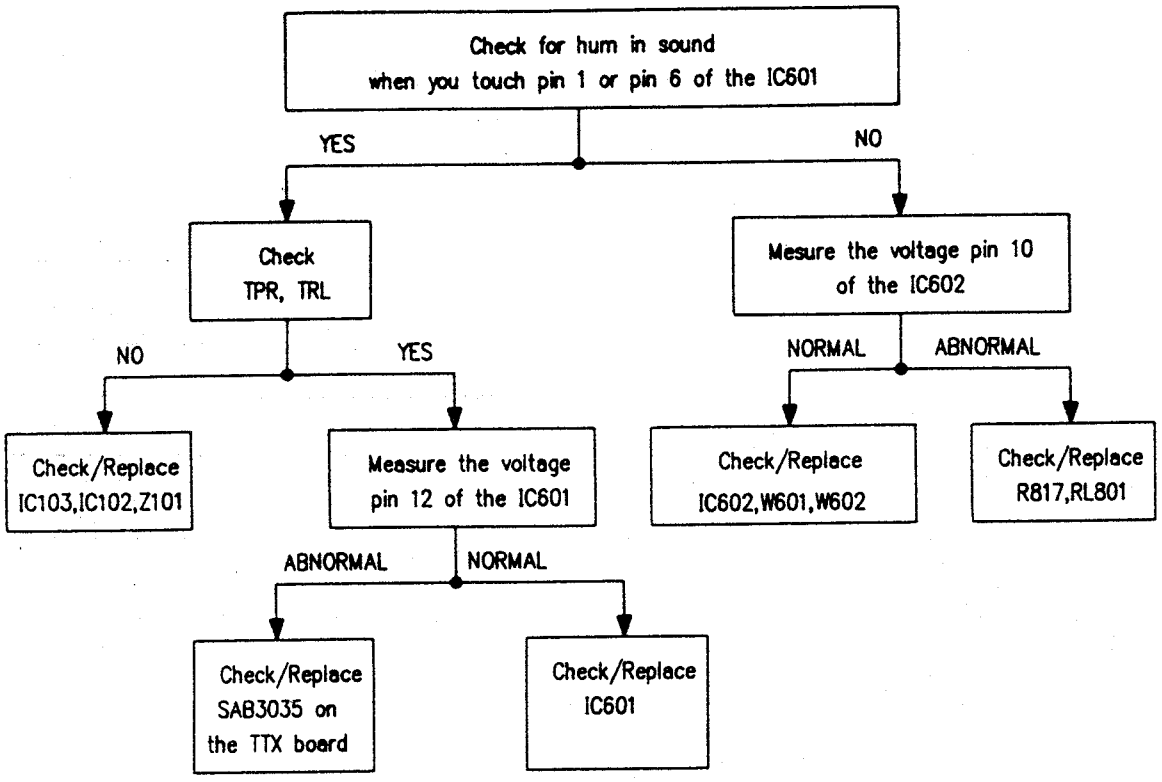
NO RASTER AND NO SOUND



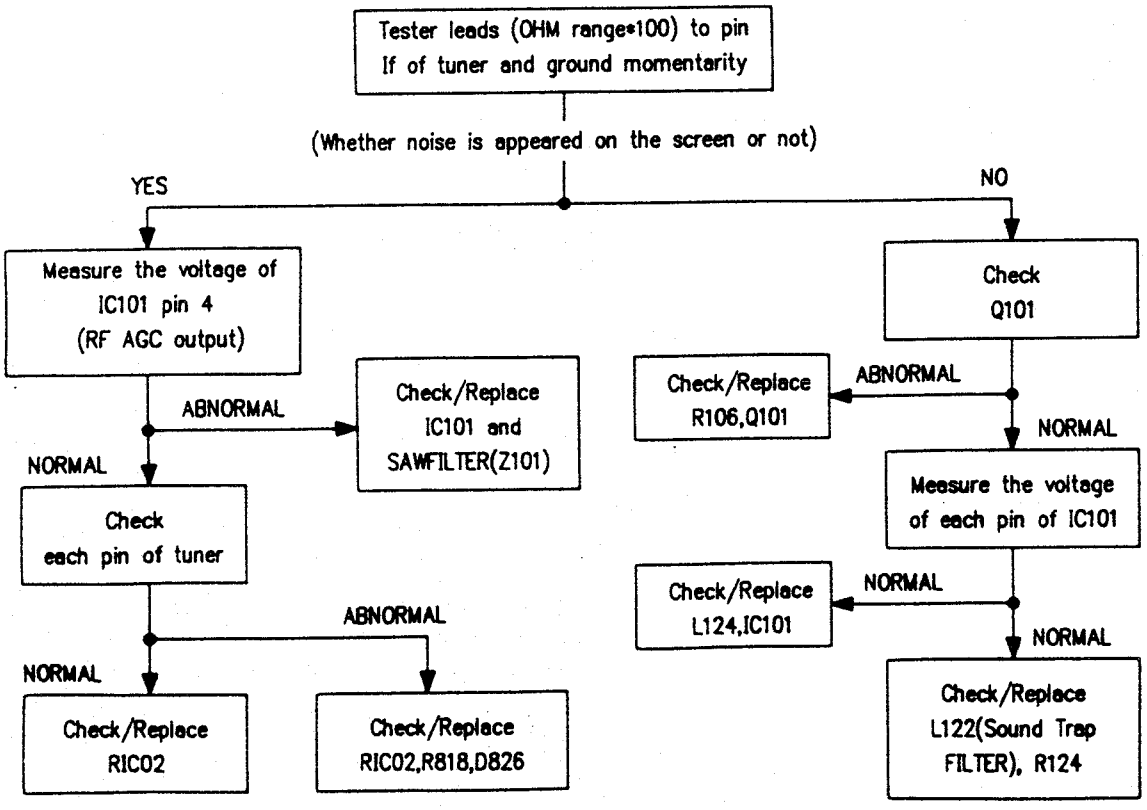
NO VERT SCAN (ONE HORIZ, LINE BASTER)



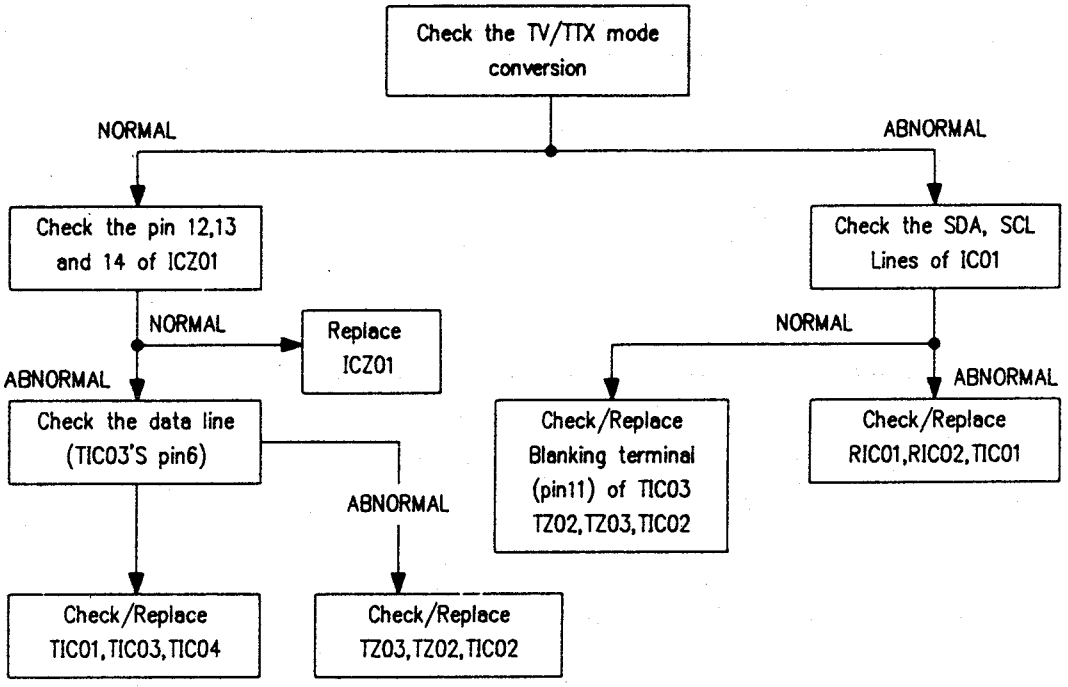
NO SOUND (PICTURE OK)



NO PICTURE (RASTER AND SOUND OR NO SOUND)



NO TELETEXT


Check the TV/TTX mode conversion
NORMAL
ABNORMAL
Check the pin 12,13 and 14 of ICZ01
Check the SDA, SCL Lines of IC01
NORMAL
Replace ICZ01
NORMAL
ABNORMAL
ABNORMAL
Check the data line (TIC03'S pin6)
Check/Replace Blanking terminal (pin11) of TIC03 TZ02,TZ03,TIC02
Check/Replace RIC01,RIC02,TIC01
ABNORMAL
Check/Replace TIC01,TIC03,TIC04
Check/Replace TZ03,TZ02,TIC02

MTTS2 FEATURES

1. CONTROL SYSTEM

■ TUNING PROCESSOR	MAB 8441P T137
■ OPEX (LED DIRVER)	SAA 1061
■ NV MEMORY	PCF 8582
■ CITAC	SAB 3035
■ TEXT PROCESSOR	MAB 8461P W115
■ CCT	SAA 5243
■ VIP	SAA 5231
■ S-RAM	KM 6264AL-10

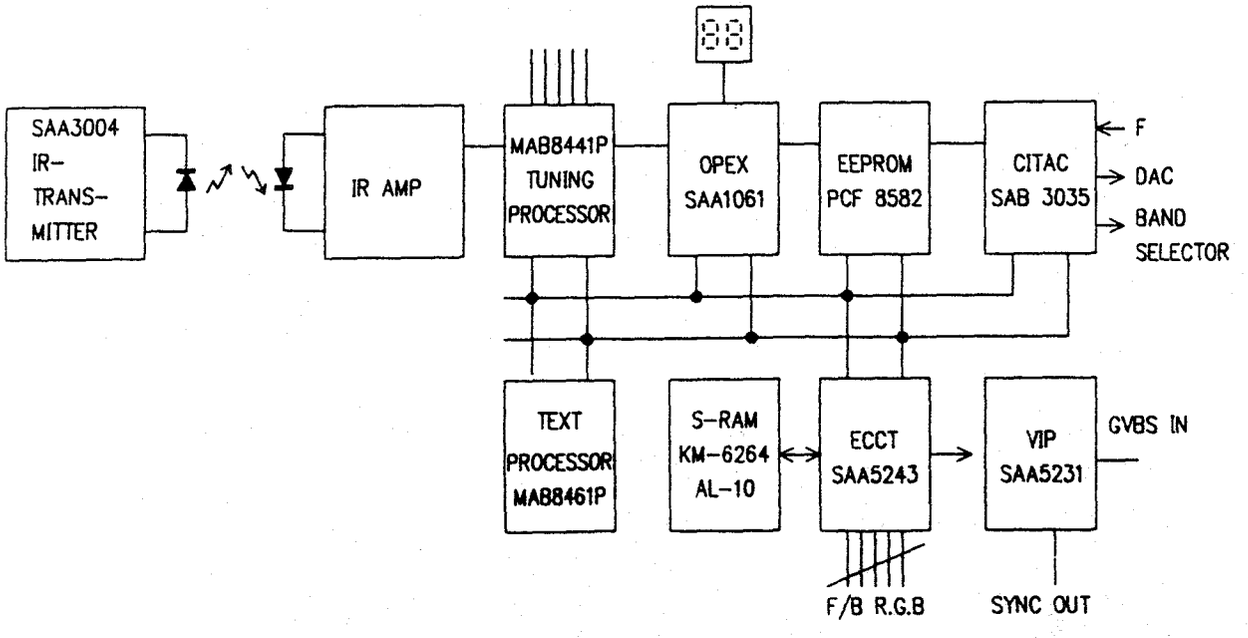
2. FEATURES

* IR remote control decoding and local keyboard scan.
* Full feature frequency-synthesized tuning with AFC.
* Control of non-volatile memory for the storage of the system parameters and 30 programmes.
* Generation of a 2-digit LED customer display.

Optional text decoder and microcontroller for :

* FASTEXT decoding with automatic linked page precapture.
* Full interpretation of extension packet 8/30.
* User-programmable favourite page number storage.
* Generation of on-screen display information.

3. MTTS2(RM104) BLOCK DIAGRAM



3-1. TUNING PROCESSOR MAB 8441P T137

PIN	NAME	FUNCTION	PIN	NAME	FUNCTION
1	P22	DLEN line for the opex	15	XTAL1	4MHz oscillator
2	SDA	IIC bus data line	16	XTAL2	4MHz oscillator
3	SCL	IIC bus clock line	17	RESET	Power on reset input
4	P00	Keyboard scan line A	18	P10	Power switch on/off
5	P01	Keyboard scan line B	19	P11	
6	P02	Keyboard scan line C	20	P12	Tuning mode select
7	P03	Keyboard scan line D	21	P13	
8	P04	Keyboard scan line E	22	P14	
9	P05	Keyboard scan line F	23	P15	VCR switch output
10	P06	Keyboard scan line G	24	P16	List option select
11	P07	Keyboard scan line H	25	P17	Message received/standby LED output
12	INT/T0	Input from infra red pre amp	26	P20	
13	T1		27	P21	
14	VSS	Ground	28	VCC	Standby supply

3-2. TEXT PROCESSOR MAB 8461P W115

PIN	NAME	FUNCTION	PIN	NAME	FUNCTION
1	P22	Not used	15	XTAL1	6MHz oscillator
2	SDA	IIC data line	16	XTAL2	6MHz oscillator
3	SCL	IIC clock line	17	RESET	Power on reset
4	P00		18	P10	FLOF/LIST mode selected at power on
5	P01		19	P11	English/european symbols
6	P02		20	P12	
7	P03	Pon-output	21	P13	
8	P04		22	P14	
9	P05		23	P15	
10	P06		24	P16	
11	P07		25	P17	
12	INT/T0		26	P20	Select 128/256 byte NVRAM
13	T1	PL signal input	27	P21	
14	VSS	Ground	28	VCC	Supply

3-3. CITAC SAB3035 (COMPUTER INTERFACE FOR TUNING AND CONTROL)

The SAB3035 provides closed-loop digital tuning of TV receivers, with or without AFC, as required.
It also controls up to 8 analogue functions, 4 general purpose I/O ports and 4 high-current outputs for tuner band selection.

PIN	NAME	FUNCTION	PIN	NAME	FUNCTION
1	DAC4	Outputs of statics DAC	15	TUN	Tuning voltage amplifier output
2	DAC5	Outputs of statics DAC	16	VP1	+12V supply voltage
3	DAC6	Outputs of statics DAC	17	VP3	32V supply for tuning voltage amplifier
4	DAC7	Outputs of statics DAC	18	P10	High-current band selection outputf ports
5	SDA	Serial data line (IIC bus)	19	P11	High-current band selection outputf ports
6	SCL	Serial clock line (IIC bus)	20	P12	High-current band selection outputf ports
7	P20	General purpose in/output port	21	P13	High-current band selection outputf ports
8	P21	General purpose in/output port	22	VP2	Positive supply for high current band
9	P22	General purpose in/output port			Selection output circuits
10	P23	General purpose in/output port	23	FIDV	Input from prescaler
11	AFC+	AFC Input	24	OSC	Crystal oscillator input
12	AFC-	AFC Input	25	DAC0	Output of static DAC
13	T1	Tuning voltage amplifier inverting	26	DAC1	Output of static DAC
14	GND	Ground	27	DAC2	Output of static DAC
			28	DAC3	Output of static DAC

3-4. VIP SAA5231 (TELETEXT VIDEO PROCESSOR)

PIN	FUNCTION	PIN	FUNCTION
1	Sync output	15	Data output (TTD)
2	Video input level select	16	Supply
3	HF filter	17	6MHz output
4	Store HF	18	Oscillator output
5	Store amplitude	19	Filter 2
6	Store zero level	20	Oscillator input
7	External data input	21	Filter 1
8	Data timing	22	Sandcastle input pulse ($\overline{PL}/\overline{CBB}$)
9	Store phase	23	Pulse timing resistor
10	$\overline{VCR}$	24	Pulse timing capacitor
11	Crystal	25	Video composite sync output (VCS)
12	Clock filter	26	Black level
13	Ground	27	Composite video input
14	Clock output (TTC)	28	Text composite sync input ($\overline{TCS}$) or Scan composite sync input ($\overline{SCS}$)

3-5. ECCT SAA5243 (ENHANCED COMPUTER CONTROLLED TELETEXT CIRCUIT)

The SAA5243 is a MOS N-channel integrated circuit which performs all the digital logic functions of a 625-line World System Teletext decoder. It operates in conjunction with the teletext video processor SAA5231, standard static RAMs and is controlled via the 2-wire I C bus. The device can be used to provide videotex display conforming to a serial character attribute protocol.

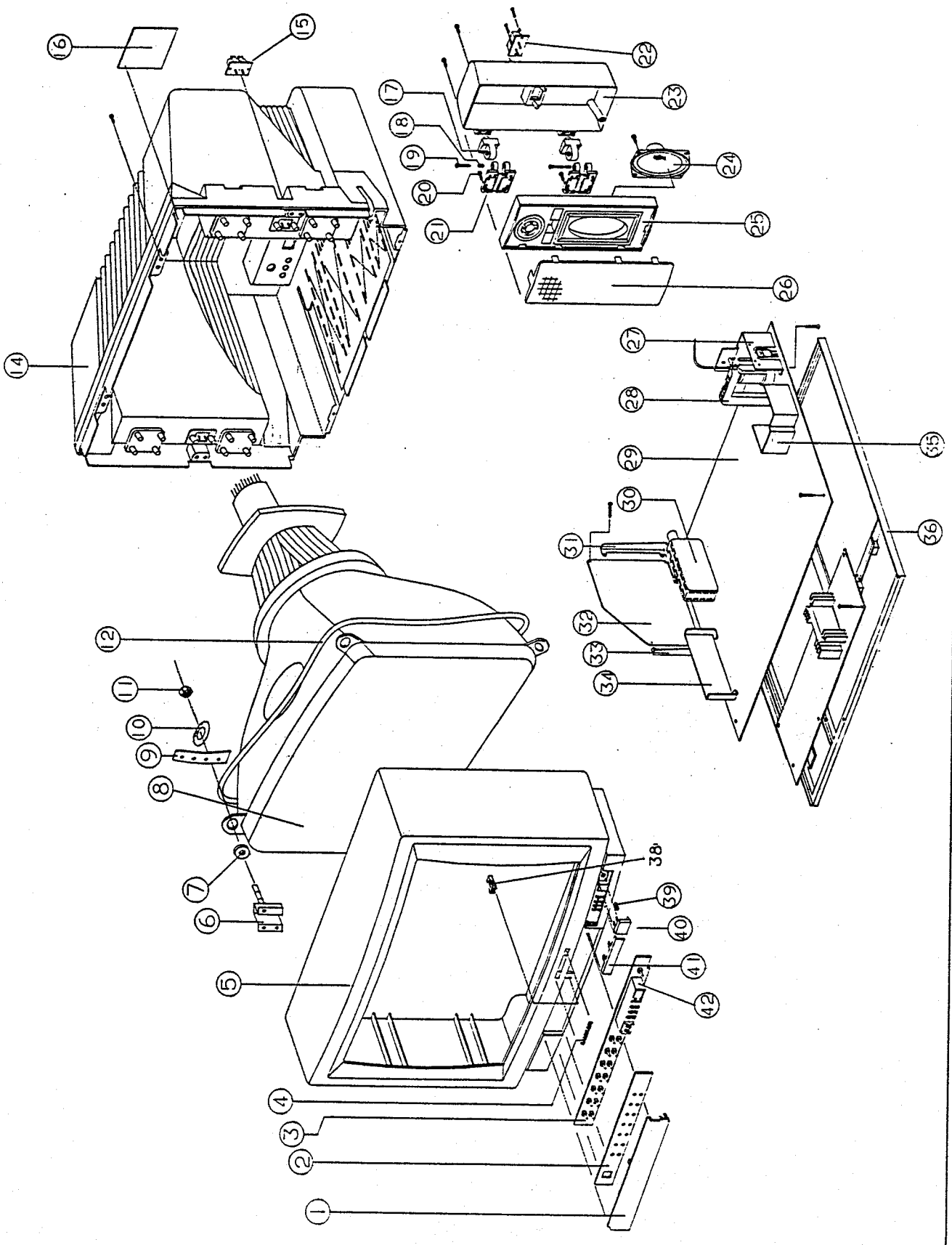
PIN	NAME	FUNCTION	PIN	NAME	FUNCTION
1	VDD	Power supply	12	$\overline{TCS}/\overline{SCS}$	Text composite sync
2,3,40	A10,A11,A12	Chapter address			/scan composite sync
4	OE	Output enable	13,14,15	R.G.B	Red,Green,Blue
5	WE	Write enable	16	COR	Contrast reduction
6	TTD	Teletext data	17	BLN	Blanking
7	TTC	Teletext clock	18	Y	Character foreground
8	$\overline{ODD/EVEN}$	ODD/EVEN	19	SCL	Serial clock
9	F6	Charater display clock	20	SDA	Serial data
10	VCS	Video composite sync	21	VSS	Ground
11	SAND	Sandcastle	22 - 29	D0-D7	8 RAM data lines
			30 - 39	A0-A9	RAM address

3-7. OPEX SAA1061 (OUTPUT PORT EXPANDER)

The PCF8582 is a 2K-bit 5V electrically eraseable programmable read onlu memory (EEPROM) organized as 256 by 8 bits. It is designed in a floating gate CMOS technology.
As data bytes are received and transmitted via the serial I C bus, an eight pin DIL package is sufficient.
Up to eight PCF8582 devices may be connected to the I C bus.
Chip select is accomplished by three address inputs.

PIN	NAME	FUNCTION	PIN	NAME	FUNCTION
1	A0	Address input or test mode select	15	SDA	Serial data (I C bus line)
2	A1	Address input or test mode select	16	SCL	Serial clock (I C bus line)
3	A2	Address input or test mode select	17	RC	Input for timer constant
4	VSS	Ground	18	VDD	Supply

EXPLODED - VIEW



PARTS LIST

NO	CODE NO	DESCRIPTION	Q'TY
1	37743-108-410	DOOR-VR,BOX	1
2	38092-103-310	PVC-CONTROL	1
3	33004-145-461	PWB-CONTROL (S.N.A)	1
4	38024-176-120	BADGE-BRAND	1
5	36001-621-010	CABINET-FRONT	1
6	36614-212-730	BRKT-CRT	4
7	36834-110-010	WASHER-GUM,CRT	4
8	32019-255-108	CRT-COLOR (ITC)	1
9	36633-101-610	CLAMPER-CORD	2
10	37334-105-530	WASHER-SPRING	4
11	37208-115-001	NUT-HEX	4
12	32479-029-200	COIL-DEGAUSSING	1
14	36001-622-010	CABINET-BACK	1
15	33371-001-001	SPEAKER-JACK (2P)	2
16	38113-115-400	LABEL-RATING	1
17	36603-118-110	HOLDER-SPEAKER,B	1
18	36674-611-110	SPRING-COIL	2
19	37128-540-251	SCREW-TAP,TH	4
20	37148-530-163	SCREW-TAP,RH	16
21	36603-118-010	HOLDER-SPEAKER,A	1
22	33371-001-001	SPEAKER-JACK (2P)	2
23	36001-638-010	CASE-BOTTOM	2
24	34209-169-310	SPEAKER-GENERAL	2
25	36001-611-010	CASE-TOP	2
26	37713-222-210	GRILLE-WOOFER	2
27	35683-115-421	HEAT-SINK,MAIN	1
28	32859-200-000	TRANS-FLYBACK	1
29	33004-154-961	PWB-MAIN (S.N.A)	1
30	34519-990-090	TUNER	1
31	36613-160-610	BRKT-TEXT	1
32	33004-143-841	PWB-REMOCON (S.N.A)	1
33	36613-160-110	BRKT-RMC,L	1
34	35684-117-221	HEAT-SINK,SOUND	1
35	35683-116-011	HEAT-SINK,POWER	1
36	36601-235-410	HOLDER-PCB	1
38	36698-100-110	CATCH-PUSH,DOOR	1
39	36674-135-310	SPRING-COIL	1
40	37624-622-910	KNOB-POWER	1
41	37654-135-810	WINDOW-F/S	1
42	36023-117-810	HOLD-DISPLAY	1

C H A S S I S R E P L A C E M E N T P A R T S L I S T

ABBREVIATIONS:

CC	C-CERAMIC	RC	R-COMPOSITION
CE	C-ELECTROLYTIC	RD	R-CARBON
CFS	C-M,POLYESTER	RF	R-FUSIBLE
CK	C-CERAMIC,HK	RM	R-METAL,FILM
CQ	C-POLYPROPYLENE,POLYESTER	RP	R-CEMENT WIRE
CS	C-TANTALIUM,SOLID	RS	R-METAL,OXIDE

NOTE: The items with "*" are usually out of stock since they are seldom required for the routine service. There may be some anticipated delay when you order these items.

*** S.N.A.=Service Not Available.***

Loc No	Supplier Part No.	Description
	1 . P W B - M A I N	
PWB	33004-154-961	330X245X1.6(T) (S.N.A)
	RESISTORS	
R101	31018-177-562	RD 1/8T 5.6K-J
R102	31018-177-102	RD 1/8T 1K-J
R103	31018-177-270	RD 1/8T 27-J
R104	31018-177-102	RD 1/8T 1K-J
R106	31018-277-101	RD 1/4T 100-J
R107	31018-177-221	RD 1/8T 220-J
R120	31018-277-331	RD 1/4T 330-J
R121	31018-177-824	RD 1/8T 820K-J
R122	31018-177-823	RD 1/8T 82K-J
R123	31018-177-331	RD 1/8T 330-J
R124	31018-177-151	RD 1/8T 150-J
R125	31018-277-271	RD 1/4T 270-J
R126	31018-177-104	RD 1/8T 100K-J
R127	31018-177-393	RD 1/8T 39K-J
R128	31018-277-432	RD 1/4T 4.3K-J
R129	31018-277-473	RD 1/4T 47K-J
R130	31018-277-243	RD 1/4T 24K-J
R141	31018-277-101	RD 1/4T 100-J
R142	31018-277-101	RD 1/4T 100-J
R150	31018-177-681	RD 1/8T 680-J
R151	31018-177-561	RD 1/8T 560-J
R154	31018-177-122	RD 1/8T 1.2K-J
R155	31018-177-561	RD 1/8T 560-J
R156	31018-177-681	RD 1/8T 680-J
R162	31046-567-220	RS 2T 22-J(AUTO)
R170	31018-177-562	RD 1/8T 5.6K-J
R171	31018-177-563	RD 1/8T 56K-J
R173	31018-177-104	RD 1/8T 100K-J
R174	31018-177-104	RD 1/8T 100K-J
R177	31047-256-193	RM 1/4T 619K-F
R178	31047-256-193	RM 1/4T 619K-F
R179	31018-277-103	RD 1/4T 10K-J
R180	31018-177-752	RD 1/8T 7.5K-J
R181	31018-177-202	RD 1/8T 2K-J
R182	31018-177-752	RD 1/8T 7.5K-J
R183	31018-177-102	RD 1/8T 1K-J
R185	31018-177-103	RD 1/8T 10K-J
R197	31046-467-111	RS 1T 110-J(AUTO)
R198	31018-277-103	RD 1/4T 10K-J
R201	31018-277-102	RD 1/4T 1K-J
R202	31018-177-102	RD 1/8T 1K-J
R203	31018-277-750	RD 1/4T 75-J
R204	31018-277-750	RD 1/4T 75-J
R205	31018-277-750	RD 1/4T 75-J
R206	31018-277-750	RD 1/4T 75-J
R213	31018-277-101	RD 1/4T 100-J
R214	31018-277-101	RD 1/4T 100-J
R215	31018-277-101	RD 1/4T 100-J
R220	31018-277-622	RD 1/4T 6.2K-J
R221	31018-277-301	RD 1/4T 300-J
R222	31018-177-151	RD 1/8T 150-J
R223	31018-177-272	RD 1/8T 2.7K-J
R224	31018-177-101	RD 1/8T 100-J
R231	31018-277-223	RD 1/4T 22K-J
R232	31018-177-103	RD 1/8T 10K-J
R233	31018-177-823	RD 1/8T 82K-J
R234	31018-177-334	RD 1/8T 330K-J
R235	31018-177-684	RD 1/8T 680K-J
R236	31018-177-683	RD 1/8T 68K-J
R237	31018-177-332	RD 1/8T 3.3K-J
R238	31018-277-472	RD 1/4T 4.7K-J
R251	31018-177-104	RD 1/8T 100K-J

Loc No	Supplier Part No.	Description
R252	31018-177-103	RD 1/8T 10K-J
R253	31018-177-103	RD 1/8T 10K-J
R254	31018-177-103	RD 1/8T 10K-J
R255	31018-277-910	RD 1/4T 91-J
R256	31018-177-103	RD 1/8T 10K-J
R257	31018-277-750	RD 1/4T 75-J
R301	31018-277-301	RD 1/4T 300-J
R302	31018-177-102	RD 1/8T 1K-J
R303	31018-277-221	RD 1/4T 220-J
R304	31018-377-331	RD 1/2T 330-J
R308	31018-177-203	RD 1/8T 20K-J
R309	31018-277-568	RD 1/4T 0.56-J
R310	31018-177-822	RD 1/8T 8.2K-J
R311	31018-277-682	RD 1/4T 6.8K-J
R312	31018-277-204	RD 1/4T 200K-J
R313	31018-177-562	RD 1/8T 5.6K-J
R314	31018-277-220	RD 1/4T 22-J
R315	31018-177-122	RD 1/8T 1.2K-J
R316	31018-177-102	RD 1/8T 1K-J
R400	31018-277-471	RD 1/4T 470-J
R401	31018-277-221	RD 1/4T 220-J
R403	31018-277-271	RD 1/4T 270-J
R404	31018-277-222	RD 1/4T 2.2K-J
R405	31018-277-103	RD 1/4T 10K-J
R406	31018-277-123	RD 1/4T 12K-J
R407	31018-277-333	RD 1/4T 33K-J
R408	31018-277-221	RD 1/4T 220-J
R411	31018-377-103	RD 1/2T 10K-J
R412	31049-375-154	RM 1/2T 150K-F
R414	31059-002-010	RF 1/2P 1-J
R415	31059-002-130	RF 1/2P 0.47-K
R416	31059-002-010	RF 1/2P 1-J
R417	31058-327-150	RF 1/2P 150-J
R418	31046-467-102	RS 1T 1K-J (AUTO)
R419	31018-377-124	RD 1/2T 120K-J
R420	31018-277-433	RD 1/4T 43K-J
R422	31018-277-102	RD 1/4T 1K-J
R423	31046-577-390	RS 2T 39-J
R424	31018-377-220	RD 1/2T 22-J
R501	31018-177-222	RD 1/8T 2.2K-J
R502	31018-177-471	RD 1/8T 470-J
R503	31018-177-333	RD 1/8T 33K-J
R504	31018-177-512	RD 1/8T 5.1K-J
R505	31018-177-103	RD 1/8T 10K-J
R506	31018-177-153	RD 1/8T 15K-J
R507	31018-177-153	RD 1/8T 15K-J
R508	31018-177-333	RD 1/8T 33K-J
R510	31018-177-272	RD 1/8T 2.7K-J
R511	31018-177-911	RD 1/8T 910-J

Loc No	Supplier Part No.	Description
R512	31018-177-561	RD 1/8T 560-J
R513	31018-177-181	RD 1/8T 180-J
R514	31018-177-821	RD 1/8T 820-J
R515	31018-177-122	RD 1/8T 1.2K-J
R516	31018-177-272	RD 1/8T 2.7K-J
R517	31018-177-102	RD 1/8T 1K-J
R518	31018-177-681	RD 1/8T 680-J
R519	31018-177-473	RD 1/8T 47K-J
R523	31018-177-124	RD 1/8T 120K-J
R524	31018-177-472	RD 1/8T 4.7K-J
R546	31018-177-122	RD 1/8T 1.2K-J
R547	31018-277-470	RD 1/4T 47-J
R548	31018-177-101	RD 1/8T 100-J
R549	31018-177-101	RD 1/8T 100-J
R603	31018-177-103	RD 1/8T 10K-J
R604	31018-177-103	RD 1/8T 10K-J
R605	31018-177-102	RD 1/8T 1K-J
R606	31018-177-472	RD 1/8T 4.7K-J
R608	31018-277-102	RD 1/4T 1K-J
R609	31018-177-472	RD 1/8T 4.7K-J
R611	31018-277-472	RD 1/4T 4.7K-J
R612	31018-277-472	RD 1/4T 4.7K-J
R613	31018-277-472	RD 1/4T 4.7K-J
R614	31018-177-562	RD 1/8T 5.6K-J
R615	31018-277-220	RD 1/4T 22-J
R616	31018-177-562	RD 1/8T 5.6K-J
R617	31018-277-152	RD 1/4T 1.5K-J
R618	31018-177-751	RD 1/8T 750-J
R619	31018-177-104	RD 1/8T 100K-J
R620	31018-177-104	RD 1/8T 100K-J
R621	31018-177-751	RD 1/8T 750-J
R698	31049-315-479	RS 2P 4.7-J
R699	31018-277-103	RD 1/4T 10K-J
R801	31039-687-569	RW 7H 5.6-J
R802	31046-468-688	RS 1T 0.68-K (AUTO)
R803	31018-277-270	RD 1/4T 27-J
R804	31039-586-390	RW 5J 39-J
R805	31046-567-101	RS 2T 100-J(AUTO)
R806	31046-467-274	RS 1T 270K-J (AUTO)
R807	31046-467-274	RS 1T 270K-J (AUTO)
R808	31018-277-153	RD 1/4T 15K-J
R809	31018-277-122	RD 1/4T 1.2K-J
R810	31018-277-103	RD 1/4T 10K-J
R811	31018-277-221	RD 1/4T 220-J
R812	31018-277-682	RD 1/4T 6.8K-J
R813	31046-567-154	RS 2T 150K-J(AUTO)
R814	31049-317-104	RS 3P 2.7K-J
R815	31028-328-475	RC 1/2P 4.7M-K
R816	31059-002-130	RF 1/2P 0.47-K

Loc No	Supplier Part No.	Description
R817	31059-002-130	RF 1/2P 0.47-K
R818	31046-567-123	RS 2T 12K-J(AUTO)
R819	31048-547-270	RS 2P 27-J
R820	31046-467-680	RS 1T 68-J (AUTO)
R821	31046-567-333	RS 2T 33K-J(AUTO)
RF01	31018-277-104	RD 1/4T 100K-J
RF02	31018-277-104	RD 1/4T 100K-J
		VARIABLE RESISTORS
VR120	31249-128-008	EVN-DJA A03 B50K
VR150	31249-128-004	EVN-DJA A03 B1K
VR151	31249-128-003	EVN-DJA A03 B2K
VR152	31249-128-011	EVN-DJA A03 B500
VR301	31249-128-009	EVN-DJA A03 B250K
VR302	31249-128-003	EVN-DJA A03 B2K
VR401	31249-128-005	EVN-DJA A03 B5K
VR402	31249-128-008	EVN-DJA A03 B50K
VR502	31249-128-001	EVN-DJA A03 B10K
VR801	31249-128-005	EVN-DJA A03 B5K
		CAPACITORS
C100	31417-109-100	CK45 TAPG F 50V 102-Z
C101	31417-104-270	CK45 TAPG B 50V 681-K
C103	31417-109-140	CK45 TAPG F 50V 103-Z
C104	31417-109-140	CK45 TAPG F 50V 103-Z
C120	31417-109-140	CK45 TAPG F 50V 103-Z
C121	31417-109-100	CK45 TAPG F 50V 102-Z
C122	31417-109-140	CK45 TAPG F 50V 103-Z
C123	31607-402-220	CE04W TAPG 50V 2.2M
C124	31607-401-490	CE04W TAPG 16V 330M-M(SG
C125	31417-109-140	CK45 TAPG F 50V 103-Z
C126	31417-109-140	CK45 TAPG F 50V 103-Z
C127	31417-109-100	CK45 TAPG F 50V 102-Z
C128	31607-402-220	CE04W TAPG 50V 2.2M
C129	31417-109-140	CK45 TAPG F 50V 103-Z
C150	31507-127-016	ECQ B1H 472JF3
C151	31607-402-210	CE04W TAPG 50V 1M
C152	31507-127-008	ECQ B1H 223JF3
C153	31507-127-010	ECQ B1H 473JF3
C154	31407-105-300	CC45 TAPG CH 50V 680-J
C156	31417-109-140	CK45 TAPG F 50V 103-Z
C157	31507-127-010	ECQ B1H 473JF3
C158	31607-401-470	CE04W TAPG 16V 100M VENT
C160	31507-127-008	ECQ B1H 223JF3
C161	31507-127-010	ECQ B1H 473JF3

Loc No	Supplier Part No.	Description
C162	31407-105-280	CC45 TAPG CH 50V 560-J
C163	31609-401-510	CE04W 16V 1000M VENT SNA
C171	31417-109-100	CK45 TAPG F 50V 102-Z
C172	31607-402-200	CE04W TAPG 50V 0.47M
C173	31607-402-070	CE04W TAPG 35V 22M
C174	31507-127-010	ECQ B1H 473JF3
C175	31507-127-010	ECQ B1H 473JF3
C176	31507-127-010	ECQ B1H 473JF3
C177	31507-127-010	ECQ B1H 473JF3
C178	31607-401-460	CE04W TAPG 16V 47M
C179	31607-402-200	CE04W TAPG 50V 0.47M
C180	31607-401-470	CE04W TAPG 16V 100M VENT
C181	31417-109-140	CK45 TAPG F 50V 103-Z
C182	31507-127-017	ECQ B1H 682JF3
C183	31507-127-017	ECQ B1H 682JF3
C184	31607-402-240	CE04W TAPG 50V 4.7M
C185	31607-402-240	CE04W TAPG 50V 4.7M
C186	31607-402-200	CE04W TAPG 50V 0.47M
C191	31607-402-200	CE04W TAPG 50V 0.47M
C192	31607-401-430	CE04W TAPG 25V 10M
C193	31607-402-240	CE04W TAPG 50V 4.7M
C194	31607-401-430	CE04W TAPG 25V 10M
C196	31607-402-240	CE04W TAPG 50V 4.7M
C200	31607-402-240	CE04W TAPG 50V 4.7M
C201	31419-104-400	CK45 B 50V 102-K
C203	31407-106-380	CC45 TAPG RH 50V 181-J
C204	31607-402-240	CE04W TAPG 50V 4.7M
C205	31607-402-240	CE04W TAPG 50V 4.7M
C206	31607-902-250	CE04W TAPG 50V 0.22M
C207	31607-402-240	CE04W TAPG 50V 4.7M
C208	31607-402-250	CE04W TAPG 50V 10M
C209	31519-002-540	CFS922M 100V 0.33-K
C210	31407-101-240	CC45 TAPG SL 50V 330-J
C211	31519-002-540	CFS922M 100V 0.33-K
C212	31507-127-008	ECQ B1H 223JF3
C213	31507-127-008	ECQ B1H 223JF3
C214	31507-127-008	ECQ B1H 223JF3
C215	31519-002-540	CFS922M 100V 0.33-K
C216	31507-127-008	ECQ B1H 223JF3
C217	31507-127-008	ECQ B1H 223JF3
C218	31507-127-008	ECQ B1H 223JF3
C219	31607-401-490	CE04W TAPG 16V 330M-M(SG
C222	31507-127-017	ECQ B1H 682JF3
C251	31507-121-260	CQ921M TAPG 100V 0.1U-J
C252	31507-121-260	CQ921M TAPG 100V 0.1U-J
C253	31417-318-222	CK45 TAPG B50V 222-K
C255	31607-402-240	CE04W TAPG 50V 4.7M
C256	31607-401-470	CE04W TAPG 16V 100M VENT
C257	31607-402-240	CE04W TAPG 50V 4.7M

Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
C301	31607-402-290	CE04W TAPG 50V 100M-M(SG	C519	31417-109-140	CK45 TAPG F 50V 103-Z
C302	31507-121-010	CQ921M TAPG 100V 0.001M-	C520	31417-109-140	CK45 TAPG F 50V 103-Z
C303	31507-121-140	CQ921M TAPG 100V 0.01M-J	C521	31417-109-140	CK45 TAPG F 50V 103-Z
C304	31607-402-710	CE04W TAPG 35V 1000M-M	C522	31607-401-470	CE04W TAPG 16V 100M VENT
C305	31507-121-260	CQ921M TAPG 100V 0.1U-J	C523	31507-127-008	ECQ B1H 223JF3
C306	31609-401-740	CE04W 25V 2200M.VENT	C524	31607-401-460	CE04W TAPG 16V 47M
C307	31607-402-210	CE04W TAPG 50V 1M	C525	31607-402-240	CE04W TAPG 50V 4.7M
C310	31507-121-140	CQ921M TAPG 100V 0.01M-J	C526	31507-127-016	ECQ B1H 472JF3
C311	31509-121-620	CQ921M 100V 0.22M-K	C527	31507-127-016	ECQ B1H 472JF3
C312	31407-106-760	CC45 TAPG RH 50V 151-J	C528	31407-105-150	CC45 TAPG CH 50V 160-J
C313	31607-402-220	CE04W TAPG 50V 2.2M	C529	31407-047-271	CC45 TAPG RH 50V 271-J
C314	31607-402-070	CE04W TAPG 35V 22M	C534	31607-402-210	CE04W TAPG 50V 1M
C315	31507-121-260	CQ921M TAPG 100V 0.1U-J	C535	31607-402-210	CE04W TAPG 50V 1M
C316	31607-402-550	CE04W 50V 6.8U-M	C536	31407-106-260	CC45 TAPG RH 50V 101-J
C401	31417-104-070	CK45 TAPG B 50V 271-K	C537	31407-106-260	CC45 TAPG RH 50V 101-J
C402	31407-106-250	CC45 TAPG SL 50V 331-J	C538	31407-106-250	CC45 TAPG SL 50V 331-J
C403	31507-121-150	CQ921M TAPG 100V 0.015M-	C539	31417-104-220	CK45 TAPG B 50V 221-K
C404	31507-121-050	CQ921M TAPG 100V 0.0022-	C540	31417-104-220	CK45 TAPG B 50V 221-K
C405	31417-767-331	CK45 TAPG B2KV 331-K	C541	31507-127-008	ECQ B1H 223JF3
C406	31509-391-020	CQ922M 1600V 0.0033-J	C542	31507-127-008	ECQ B1H 223JF3
C407	31509-391-020	CQ922M 1600V 0.0033-J	C601	31607-401-680	CE04W TAPG 25V 100U
C408	31607-403-490	CE04W TAPG 250V 10M-M	C602	31607-401-720	CE04W TAPG 25V 1000M-M
C409	31609-402-370	CE04W 35V 470M (-40+105C	C603	31519-006-130	CFS922M 100V 0.22-K
C410	31607-403-450	CE04W TAPG 250V 1M	C604	31607-401-720	CE04W TAPG 25V 1000M-M
C411	31509-335-190	CQ922M 200V 0.43M-J	C605	31607-401-720	CE04W TAPG 25V 1000M-M
C412	31609-402-370	CE04W 35V 470M (-40+105C	C606	31607-401-680	CE04W TAPG 25V 100U
C413	31519-003-020	CFS922M 400V 0.1-K	C607	31519-006-130	CFS922M 100V 0.22-K
C421	31607-401-490	CE04W TAPG 16V 330M-M(SG	C608	31607-401-460	CE04W TAPG 16V 47M
C422	31417-901-660	CK45 TAPG B1KV 222-K	C609	31507-127-002	ECQ B1H 222JF3
C423	31507-121-260	CQ921M TAPG 100V 0.1U-J	C610	31607-401-670	CE04W TAPG 25V 47M
C424	31519-101-100	DSR 50V 0.0027 U-J	C611	31507-127-002	ECQ B1H 222JF3
C425	31607-401-460	CE04W TAPG 16V 47M	C612	31607-401-460	CE04W TAPG 16V 47M
C426	31507-121-220	CQ921M TAPG 100V 0.047M-	C621	31607-902-250	CE04W TAPG 50V 0.22M
C427	31417-901-180	CK45 TAPG B2KV 271-K	C623	31607-401-720	CE04W TAPG 25V 1000M-M
C501	31417-318-222	CK45 TAPG B50V 222-K	C624	31607-902-250	CE04W TAPG 50V 0.22M
C502	31607-402-210	CE04W TAPG 50V 1M	C625	31607-902-250	CE04W TAPG 50V 0.22M
C503	31507-127-010	ECQ B1H 473JF3	C626	31607-402-220	CE04W TAPG 50V 2.2M
C504	31519-002-540	CFS922M 100V 0.33-K	C627	31607-902-250	CE04W TAPG 50V 0.22M
C506	31507-127-008	ECQ B1H 223JF3	C628	31607-402-220	CE04W TAPG 50V 2.2M
C507	31417-109-100	CK45 TAPG F 50V 102-Z	C629	31607-402-170	CE04W TAPG 50V 0.1U-L,L
C508	31407-106-260	CC45 TAPG RH 50V 101-J	C630	31607-902-250	CE04W TAPG 50V 0.22M
C511	31417-104-220	CK45 TAPG B 50V 221-K	C632	31607-902-250	CE04W TAPG 50V 0.22M
C512	31417-104-220	CK45 TAPG B 50V 221-K	C642	31607-402-230	CE04W TAPG 50V 3.3M
C513	31407-105-300	CC45 TAPG CH 50V 680-J	C643	31607-402-240	CE04W TAPG 50V 4.7M
C514	31407-105-180	CC45 TAPG CH 50V 220-J	C644	31607-402-070	CE04W TAPG 35V 22M
C515	31407-047-121	CC45 TAPG RH 50V 121-J	C645	31607-402-240	CE04W TAPG 50V 4.7M
C516	31407-105-180	CC45 TAPG CH 50V 220-J	C646	31607-402-530	CE04W TAPG 50V 0.47u-NP
C517	31407-105-300	CC45 TAPG CH 50V 680-J	C647	31607-402-530	CE04W TAPG 50V 0.47u-NP
C518	31407-106-260	CC45 TAPG RH 50V 101-J	C648	31607-402-230	CE04W TAPG 50V 3.3M

Loc No	Supplier Part No.	Description
C650	31607-402-170	CE04W TAPG 50V 0.1U-L,L
C651	31507-127-002	ECQ B1H 222JF3
C652	31507-127-002	ECQ B1H 222JF3
C660	31507-127-016	ECQ B1H 472JF3
C661	31507-127-016	ECQ B1H 472JF3
C801	31469-502-220	CK 45P E250V 222-Z(T1.5K
C802	31469-502-220	CK 45P E250V 222-Z(T1.5K
C803	31469-502-220	CK 45P E250V 222-Z(T1.5K
C804	31469-502-220	CK 45P E250V 222-Z(T1.5K
C807	31609-964-151	CE04W 400V 150U
C808	31607-401-670	CE04W TAPG 25V 47M
C809	31507-121-110	CQ921M TAPG 100V 0.0056M
C810	31509-337-770	CQ922M 400V 0.0082-J
C811	31607-401-470	CE04W TAPG 16V 100M VENT
C812	31607-402-210	CE04W TAPG 50V 1M
C813	31607-401-470	CE04W TAPG 16V 100M VENT
C814	31509-391-090	CQ922M 1600V 0.0022-J
C815	31417-901-180	CK45 TAPG B2KV 271-K
C816	31407-106-260	CC45 TAPG RH 50V 101-J
C817	31469-504-060	ECK-DNS472MEX/E400V 472(
C818	31469-504-060	ECK-DNS472MEX/E400V 472(
C819	31607-401-720	CE04W TAPG 25V 1000M-M
C822	31417-767-331	CK45 TAPG B2KV 331-K
C823	31607-402-110	CE04W TAPG 35V 220M-M
C824	31417-109-140	CK45 TAPG F 50V 103-Z
C825	31607-402-480	CE04W TAPG 50V 47-W(+20-
C827	31609-403-140	CE04W 160V 220U-M
C828	31417-767-331	CK45 TAPG B2KV 331-K
C831	31417-767-331	CK45 TAPG B2KV 331-K
C832	31417-901-180	CK45 TAPG B2KV 271-K
C836	31607-402-210	CE04W TAPG 50V 1M
C841	31569-204-190	250V 0.47M/KNB 1530
C842	31569-204-190	250V 0.47M/KNB 1530
CF01	31407-105-260	CC45 TAPG CH 50V 470-J
CF02	31407-105-260	CC45 TAPG CH 50V 470-J
CRL801	31419-901-370	CK45B 1KV 103-Z
VC101	31829-105-610	TZ03P 450E
	SEMICONDUCTORS	
D100	32167-401-630	EQA02-12A
D191	32167-406-080	MTZ 5.1B
D199	32167-401-810	EQA02-06E/MTZ6.2C(TAPG)
D201	32167-406-480	1N4148 TAPG
D202	32167-406-480	1N4148 TAPG
D203	32167-401-630	EQA02-12A
D204	32167-401-630	EQA02-12A
D205	32167-401-630	EQA02-12A
D206	32167-406-480	1N4148 TAPG

Loc No	Supplier Part No.	Description
D251	32167-401-800	EQA02-06A/MTZ5.6B(TAPG)
D252	32167-406-480	1N4148 TAPG
D253	32167-406-480	1N4148 TAPG
D301	32167-201-070	1N4003 TAPG
D302	32167-401-630	EQA02-12A
D401	32167-201-160	TVR06G(TAPG)
D402	32167-208-550	ERC 24-06 TAPG
D403	32167-201-160	TVR06G(TAPG)
D405	32167-201-070	1N4003 TAPG
D406	32167-201-070	1N4003 TAPG
D602	32167-406-480	1N4148 TAPG
D603	32167-406-480	1N4148 TAPG
D699	32167-406-480	1N4148 TAPG
D801	32167-201-180	M100J(TAPG)
D802	32167-201-180	M100J(TAPG)
D803	32167-201-180	M100J(TAPG)
D804	32167-201-180	M100J(TAPG)
D805	32167-208-550	ERC 24-06 TAPG
D807	32167-208-550	ERC 24-06 TAPG
D809	32167-208-550	ERC 24-06 TAPG
D811	32167-208-550	ERC 24-06 TAPG
D812	32167-208-550	ERC 24-06 TAPG
D814	32167-208-550	ERC 24-06 TAPG
D815	32167-208-550	ERC 24-06 TAPG
D825	32167-201-070	1N4003 TAPG
D826	32119-101-360	KA 33V(TAPG)
IC101	32119-101-380	TDA8341/N6
IC102	32119-101-240	TDA2556/V2
IC103	32119-101-250	TDA3803A/V2,V3
IC201	32119-501-020	TDA3505/V9
IC202	32119-101-010	TEA2014
IC301	32119-101-610	TDA3653B/N1
IC302	32119-101-460	TDA2579A/N8
IC501	32119-501-010	TDA4555/V8
IC502	32119-101-650	TDA4565/V6
IC601	32119-102-730	AN5836
IC602	32119-103-110	TA 7270P
IC603	32109-301-900	CD4066BCN
P801	32189-609-330	PTH451C02BG360N270
P802	32189-102-030	P2462-J29/J29-P190-A20
Q101	32139-301-090	2SC 388-A
Q203	32137-301-550	KSC 2331-O(TAPG)
Q252	32137-401-530	KSA 539-Y(TAPG)
Q401	32149-301-050	2SD1555
Q402	32137-301-550	KSC 2331-O(TAPG)
Q502	32137-301-530	KSC 2330-O(TAPG)
Q503	32137-301-530	KSC 2330-O(TAPG)
Q801	32149-301-010	2SC3552
Q803	32119-901-110	MC7812C (AUTO)

Loc No	Supplier Part No.	Description
	COILS	
L101	32429-014-020	1.3UH-K
L120	32709-024-310	38.9MHZ/0.17UH
L121	32429-834-010	5.6MH-J
L122	32427-805-450	12UH-K TAPG
L123	32709-024-320	38.9MHZ/0.36UH
L124	32427-803-130	10UH-K TAPG
L150	32709-024-270	5.5MHZ/5.74MHZ
L151	32709-024-270	5.5MHZ/5.74MHZ
L152	32427-805-110	1UH-M
L153	32709-024-240	35MHZ
L170	32709-024-250	54.68KHZ
L171	32427-803-130	10UH-K TAPG
L202	32709-024-260	4MHZ
L400	32449-411-110	350UH
L401	32427-805-110	1UH-M
L405	32429-805-980	6800UH-K
L450	32449-712-010	K-10/195UH
L501	32427-803-410	8.2UH-M
L502	32769-110-610	119LN-K6190Y
L504	32769-110-610	119LN-K6190Y
L505	32769-110-610	119LN-K6190Y
L506	32769-110-610	119LN-K6190Y
L507	32427-805-450	12UH-K TAPG
L508	32769-110-710	113CN-K5037BY
L509	32427-805-500	33UH-K TAPG
L801	32429-633-090	39MHX2(U)
L803	32429-226-160	4.7UH-K
L805	32429-226-290	22UH(1A)
L808	32429-226-080	1UH-K
L902	32479-029-200	22RT 120L 1360
T401	32849-020-010	50MH,K-16
T444	32859-200-000	FCM-20A015
T801	32899-002-220	P:160/260V S:125/20/16.5
X501	32469-106-060	SDL-145(G.T.E)
	MISCELLANENOUS	
CNA01	33347-108-140	67094-006 (AUTO)
CNA02	33347-108-110	67094-007 (AUTO)
CNA03	33347-108-140	67094-006 (AUTO)
CNA04	33347-108-180	67094-005 (AUTO)
CNA06	33347-108-180	67094-005 (AUTO)
CNA07	33347-114-810	YW025-04(AUTO)
CNA08	33347-108-140	67094-006 (AUTO)
CNA09	33347-114-810	YW025-04(AUTO)
CNA10	33347-108-310	67094-003(AUTO)
CNA11A	33347-108-310	67094-003(AUTO)
CNA11C	33347-108-310	67094-003(AUTO)
CNA15	33347-108-310	67094-003(AUTO)
CNA88	33347-108-310	67094-003(AUTO)
F801	34709-084-730	FST 250V 3.15A 20MM SEMK
F-CLI	33164-700-220	PBP-3 1/2H T0.4 SN
JA01	33134-103-030	HXG-1510-01-300A
L804	34047-019-060	3.5X6X1.0
L814	34047-019-060	3.5X6X1.0
RL801	34729-002-010	JC 2A DC 12V
TU001	34519-990-090	ECC-2885PD(P)
X101	34539-070-210	HC-18/U,8.86723MHZ
Z101	34529-440-030	OFW G 3203
Z102	34527-460-011	TPS6.5MBTF21
Z103	34529-460-010	TPS5.5MW
Z150	34529-439-810	SFE 5.5MC
Z151	34529-439-910	SFE 5.74MC
Z153	34529-439-910	SFE 5.74MC
	2 . A S S Y - P W B R E M O C O N	
PWB	33004-143-841	164.5X169X1.6T (S.N.A)
	RESISTORS	
RR01	31018-277-101	RD 1/4T 100-J
RR02	31018-277-101	RD 1/4T 100-J
RR03	31018-277-101	RD 1/4T 100-J
RR04	31018-277-471	RD 1/4T 470-J
RR05	31018-277-471	RD 1/4T 470-J
RR06	31018-277-471	RD 1/4T 470-J
RR07	31018-277-471	RD 1/4T 470-J
RR08	31018-277-471	RD 1/4T 470-J
RR09	31018-277-471	RD 1/4T 470-J
RR10	31018-277-471	RD 1/4T 470-J
RR11	31018-277-471	RD 1/4T 470-J
RR12	31018-277-471	RD 1/4T 470-J
RR13	31018-277-470	RD 1/4T 47-J
RR14	31018-277-222	RD 1/4T 2.2K-J
RR15	31018-277-222	RD 1/4T 2.2K-J
RR16	31018-277-105	RD 1/4T 1M-J
RR17	31018-277-473	RD 1/4T 47K-J
RR18	31018-277-472	RD 1/4T 4.7K-J
RR19	31018-277-332	RD 1/4T 3.3K-J
RR20	31018-277-221	RD 1/4T 220-J
RR21	31018-277-472	RD 1/4T 4.7K-J

Loc No	Supplier Part No.	Description
RR22	31018-277-822	RD 1/4T 8.2K-J
RR24	31018-277-152	RD 1/4T 1.5K-J
RR25	31018-277-103	RD 1/4T 10K-J
RR26	31018-277-103	RD 1/4T 10K-J
RR27	31018-277-473	RD 1/4T 47K-J
RR28	31018-277-102	RD 1/4T 1K-J
RR29	31018-277-103	RD 1/4T 10K-J
RR30	31018-277-562	RD 1/4T 5.6K-J
RR31	31018-277-683	RD 1/4T 68K-J
RR32	31018-277-105	RD 1/4T 1M-J
RR33	31018-277-473	RD 1/4T 47K-J
RR34	31018-277-104	RD 1/4T 100K-J
RR36	31018-277-393	RD 1/4T 39K-J
RR38	31018-277-433	RD 1/4T 43K-J
RR39	31018-277-912	RD 1/4T 9.1K-J
RR40	31018-277-683	RD 1/4T 68K-J
RR41	31018-277-152	RD 1/4T 1.5K-J
RR42	31018-277-102	RD 1/4T 1K-J
RR43	31018-277-163	RD 1/4T 16K-J
RR44	31018-277-163	RD 1/4T 16K-J
RR45	31018-277-223	RD 1/4T 22K-J
RR46	31018-277-473	RD 1/4T 47K-J
RR47	31049-315-479	RS 2P 4.7-J
RR48	31049-527-820	RS 2P 82-J
RR49	31018-277-103	RD 1/4T 10K-J
TR02	31018-277-105	RD 1/4T 1M-J
TR03	31018-277-222	RD 1/4T 2.2K-J
TR04	31018-277-182	RD 1/4T 1.8K-J
TR05	31018-277-103	RD 1/4T 10K-J
TR06	31018-277-823	RD 1/4T 82K-J
TR07	31018-277-472	RD 1/4T 4.7K-J
TR08	31018-277-332	RD 1/4T 3.3K-J
TR09	31018-277-222	RD 1/4T 2.2K-J
TR10	31018-277-470	RD 1/4T 47-J
TR12	31018-277-332	RD 1/4T 3.3K-J
TR13	31018-277-470	RD 1/4T 47-J
TR14	31018-277-222	RD 1/4T 2.2K-J
TR15	31018-277-332	RD 1/4T 3.3K-J
TR16	31018-277-470	RD 1/4T 47-J
TR17	31018-277-272	RD 1/4T 2.7K-J
TR18	31018-277-222	RD 1/4T 2.2K-J
TR19	31018-277-470	RD 1/4T 47-J
TR21	31018-277-122	RD 1/4T 1.2K-J
TR22	31018-277-391	RD 1/4T 390-J
TR25	31018-277-563	RD 1/4T 56K-J
TR26	31018-277-331	RD 1/4T 330-J
TR27	31018-277-563	RD 1/4T 56K-J
TR28	31018-277-153	RD 1/4T 15K-J
TR30	31018-277-181	RD 1/4T 180-J
TR31	31018-277-471	RD 1/4T 470-J
TR33	31018-277-202	RD 1/4T 2K-J
TR34	31018-277-103	RD 1/4T 10K-J
TR35	31018-277-202	RD 1/4T 2K-J
TR36	31018-277-223	RD 1/4T 22K-J
TR37	31018-277-472	RD 1/4T 4.7K-J
		CAPACITORS
RC01	31407-057-330	CC45 TAPG CH 50V 330-J
RC02	31407-057-330	CC45 TAPG CH 50V 330-J
RC03	31607-402-220	CE04W TAPG 50V 2.2M
RC04	31607-401-840	CE04W TAPG 10V 100M-M
RC05	31519-002-580	CFS922M 100V 1.5U-J
RC06	31507-121-200	CQ921M TAPG 100V 0.033M-
RC07	31407-057-330	CC45 TAPG CH 50V 330-J
RC08	31507-121-220	CQ921M TAPG 100V 0.047M-
RC09	31417-318-222	CK45 TAPG B50V 222-K
RC10	31609-401-180	CE04W 16V 1000u
RC12	31607-402-210	CE04W TAPG 50V 1M
RC13	31609-401-140	CE04W 6.3V 1000M
RC14	31417-109-140	CK45 TAPG F 50V 103-Z
RCN01	31499-009-420	NCYFIH102M09
TC01	31407-106-200	CC45 TAPG RH50V 270-J
TC02	31407-106-200	CC45 TAPG RH50V 270-J
TC03	31607-402-220	CE04W TAPG 50V 2.2M
TC05	31507-121-180	CQ921M TAPG 100V 0.022M-
TC06	31407-106-150	CC45 TAPG RH 50V 150-J
TC07	31417-104-400	CK45 TAPG B 50V 102-K
TC08	31417-104-250	CK45 TAPG B 50V 471-K
TC09	31417-104-070	CK45 TAPG B 50V 271-K
TC10	31407-105-660	CC45 TAPG CH 50V 101-J
TC11	31407-106-150	CC45 TAPG RH 50V 150-J
TC12	31407-106-200	CC45 TAPG RH50V 270-J
TC14	31607-402-220	CE04W TAPG 50V 2.2M
TC15	31507-121-240	CQ921M TAPG 100V 0.068M-
TC16	31407-047-221	CC45 TAPG RH 50V 221-J
TC17	31507-121-220	CQ921M TAPG 100V 0.047M-
TC18	31407-106-150	CC45 TAPG RH 50V 150-J
TC19	31507-121-220	CQ921M TAPG 100V 0.047M-
TC23	31607-401-460	CE04W TAPG 16V 47M
TC24	31417-109-140	CK45 TAPG F 50V 103-Z
TC25	31417-104-400	CK45 TAPG B 50V 102-K
TC26	31607-402-200	CE04W TAPG 50V 0.47M
TC28	31417-104-050	CK45 TAPG B 50V 101-K
TC29	31417-104-050	CK45 TAPG B 50V 101-K
TC30	31507-121-220	CQ921M TAPG 100V 0.047M-
TC32	31417-109-140	CK45 TAPG F 50V 103-Z

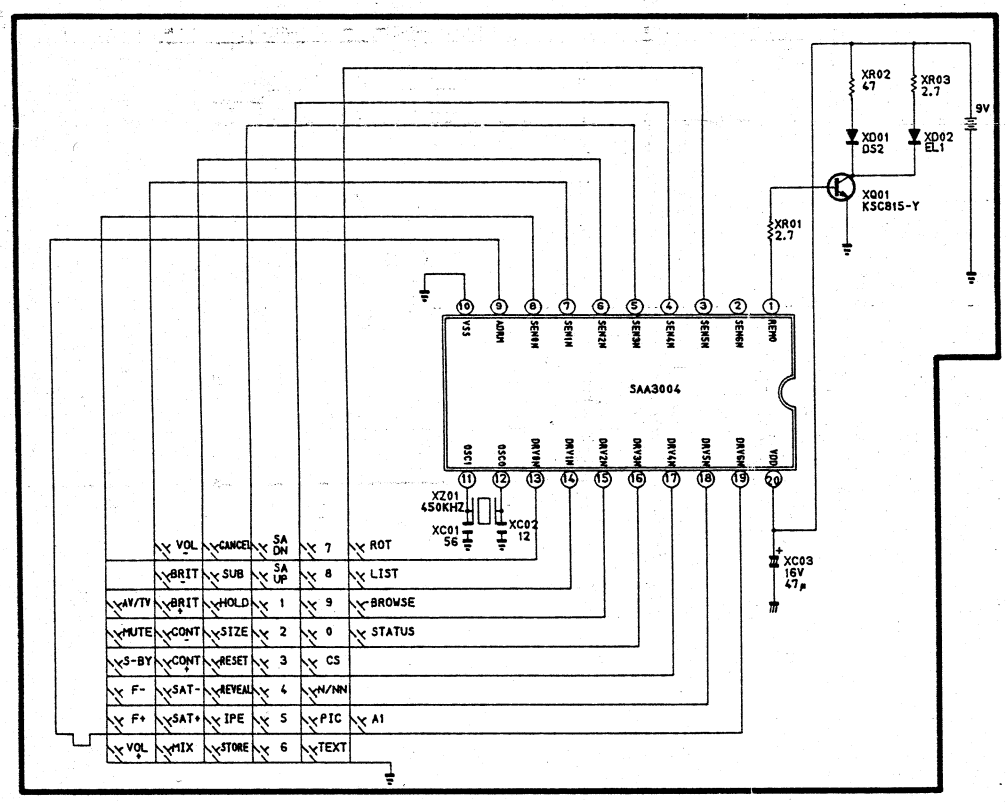
Loc No	Supplier Part No.	Description
TC33	31609-401-140	CE04W 6.3V 1000M
TC34	31607-402-250	CE04W TAPG 50V 10M
TV01	31407-106-180	CC45 TAPE RH 50V 180-J
	SEMICONDUCTORS	
DZ01	32167-401-800	EQA02-06A/MTZ5.6B(TAPG)
RD01	32167-406-480	1N4148 TAPG
RD02	32167-406-480	1N4148 TAPG
RD03	32167-406-040	MTZ 3.6A
RD04	32167-406-480	1N4148 TAPG
RD05	32167-406-480	1N4148 TAPG
RD06	32167-408-080	EQA02-06D/MTZ6.2B(TAPG)
RIC01	32109-101-370	MAB8441PT137/V8
RIC02	32119-101-710	SAB3035/C1
RIC03	32109-201-430	PCF8582 AP
RQ01	32137-301-720	KSC 815-Y (TAPG)
RQ02	32137-301-720	KSC 815-Y (TAPG)
RQ03	32137-301-720	KSC 815-Y (TAPG)
RQ04	32137-301-720	KSC 815-Y (TAPG)
RQ06	32137-301-720	KSC 815-Y (TAPG)
SQ01	32119-401-110	MC7805C (AUTO)
TD01	32167-406-480	1N4148 TAPG
TD02	32167-406-480	1N4148 TAPG
TD03	32167-406-040	MTZ 3.6A
TD05	32167-406-480	1N4148 TAPG
TD06	32167-406-480	1N4148 TAPG
TD07	32167-406-040	MTZ 3.6A
TIC01	32109-101-380	MAB8461P/W115
TIC02	32119-101-690	SAA5231/V6
TIC03	32119-101-700	SAA5243P/E/M2
TIC04	32109-201-410	KM6264AP-10
TQ01	32137-301-720	KSC 815-Y (TAPG)
TQ02	32137-401-530	KSA 539-Y(TAPG)
TQ03	32137-301-720	KSC 815-Y (TAPG)
TQ04	32137-301-720	KSC 815-Y (TAPG)
TQ05	32137-301-720	KSC 815-Y (TAPG)
TQ06	32137-301-720	KSC 815-Y (TAPG)
TR07	32137-301-720	KSC 815-Y (TAPG)
TR08	32137-301-720	KSC 815-Y (TAPG)
	MISCELLANEOUS	
CNR01	33345-108-140	67094-006(SEP)
CNR01	33058-017-172	S6XS6/F/300/3
CNR02	33058-101-861	S7XS7/1185XF5/500
CNR02	33345-108-110	67094-007(SEP)
CNR03	33058-017-016	S6XS6/F/400
CNR03	33345-108-140	67094-006(SEP)
CNR04	33345-108-180	67094-005(SEP)
CNR04	33058-009-176	S5XS5/F/400/3
CNR05	33347-108-310	67094-003(AUTO)
CNR06	33345-108-180	67094-005(SEP)
CNR06	33058-009-012	S5XS5/F/300
CNR07	33347-114-820	YW025-04(AUTO,NO TUBE)
CNR07	33050-111-011	Y4XY4/2405XF/300
CNR08	33345-108-140	67094-006(SEP)
CNR09	33345-110-150	67094-008(SEP)
CNR88	33347-108-310	67094-003(AUTO)
CNR88	33058-004-016	S3XS3/F/400
RV01	33054-601-082	SR/1365/200
RZ01	34539-017-010	HC-18/U,4.000MHZ
RZ02	34539-017-010	HC-18/U,4.000MHZ
TL01	32427-822-010	15UH-J TAPG
TZ01	34539-080-010	KBR-6.0M
TZ02	34539-071-060	HC-18/U,13.875MHZ
TZ23	34539-080-010	KBR-6.0M
	3 . A S S Y - C R T	
V888	32019-255-108	54HGB99X-ITC
	4 . A S S Y - P W B C R T	
PWB	33004-141-651	245X245X1.6T-6Y (S.N.A)
	RESISTORS	
R506	31018-277-152	RD 1/4T 1.5K-J
R550	31018-277-511	RD 1/4T 510-J
R551	31018-277-122	RD 1/4T 1.2K-J
R553	31018-377-681	RD 1/2T 680-J
R555	31018-277-684	RD 1/4T 680K-J
R556	31018-277-561	RD 1/4T 560-J
R557	31028-328-472	RC 1/2T 4.7K-K
R558	31018-277-511	RD 1/4T 510-J
R559	31018-277-511	RD 1/4T 510-J
R560	31018-277-122	RD 1/4T 1.2K-J
R561	31049-101-473	RS 1P 47K-J
R562	31049-101-473	RS 1P 47K-J

Loc No	Supplier Part No.	Description
R562	31018-377-681	RD 1/2T 680-J
R563	31018-277-122	RD 1/4T 1.2K-J
R564	31018-277-684	RD 1/4T 680K-J
R565	31049-315-030	RS 2P 18K-J
R566	31028-328-472	RC 1/2T 4.7K-K
R568	31018-277-122	RD 1/4T 1.2K-J
R569	31049-101-473	RS 1P 47K-J
R570	31018-377-681	RD 1/2T 680-J
R571	31018-277-122	RD 1/4T 1.2K-J
R572	31018-277-684	RD 1/4T 680K-J
R573	31049-315-030	RS 2P 18K-J
R574	31028-328-472	RC 1/2T 4.7K-K
R575	31018-277-561	RD 1/4T 560-J
R578	31018-277-122	RD 1/4T 1.2K-J
R580	31059-004-019	RF 2P 1.9-J
R581	31049-315-030	RS 2P 18K-J
R590	31018-277-105	RD 1/4T 1M-J
	VARIABLE RESISTORS	
VR550	31249-128-004	EVN-DJA A03 B1K
VR551	31249-128-004	EVN-DJA A03 B1K
	CAPACITORS	
C551	31407-105-120	CC45 TAPG CH 50V 121-J
C552	31407-101-360	CC45 TAPG SL 50V 101-J
C553	31417-104-070	CK45 TAPG B 50V 271-K
C554	31407-105-120	CC45 TAPG CH 50V 121-J
C555	31417-104-250	CK45 TAPG B 50V 471-K
C556	31407-105-120	CC45 TAPG CH 50V 121-J
C557	31417-104-070	CK45 TAPG B 50V 271-K
C558	31417-104-250	CK45 TAPG B 50V 471-K
C559	31607-401-460	CE04W TAPG 16V 47M
C560	31609-403-460	CE04W 250V 2.2-VENT
C561	31418-767-331	CK45 B 2KV 331-K
C566	31417-104-070	CK45 TAPG B 50V 271-K
C590	31609-403-460	CE04W 250V 2.2-VENT
	SEMICONDUCTORS	
D550	32167-406-480	1N4148 TAPG
D551	32167-406-480	1N4148 TAPG
D552	32167-406-480	1N4148 TAPG
D553	32167-406-480	1N4148 TAPG
D554	32167-406-480	1N4148 TAPG
D555	32167-406-480	1N4148 TAPG
D556	32167-406-480	1N4148 TAPG
D557	32167-406-480	1N4148 TAPG
D558	32167-406-480	1N4148 TAPG
D590	32167-201-180	M100J(TAPG)
Q550	32159-101-270	BF 871
Q551	32137-301-510	KSC 2310-0(TAPG)
Q552	32159-101-260	BF 423
Q553	32159-101-270	BF 871
Q554	32137-301-510	KSC 2310-0(TAPG)
Q555	32159-101-260	BF 423
Q556	32159-101-270	BF 871
Q557	32137-301-510	KSC 2310-0(TAPG)
Q558	32159-101-260	BF 423
Q559	32137-401-530	KSA 539-Y(TAPG)
	MISCELLANEOUS	
CNT08	33058-017-024	S6XS6/F/600
CNT08	33345-108-140	67094-006(SEP)
CNT09	33050-101-853	Y4XY4/1185X2/600
CNT09	33347-114-820	YW025-04(AUTO,NO TUBE)
SOCKET	33359-063-620	HF-29.1A
TL01	32427-805-110	1UH-M
	5 . A S S Y - P W B C O N T R O L	
PWB	33004-145-461	291X40X1.6T (S.N.A)
CC01	31607-401-460	CE04W TAPG 16V 47M
CC02	31417-109-140	CK45 TAPG F 50V 103-Z
CLD01	32309-110-430	DS2 (DL-25R)/SL-425R
CLD02	32309-110-430	DS2 (DL-25R)/SL-425R
CLD03	32309-201-080	ODR-204ALS
CNC05	33055-216-215	S3/2405/700
CNC08	33058-007-024	S5/F/600
CNC09	33058-012-028	S8/F/700
CNC10	33058-002-184	S3/F/600/3
CNC15	33058-002-020	S3/F/500
CR01	31018-277-561	RD 1/4T 560-J
CR02	31018-277-561	RD 1/4T 560-J
CR03	31018-277-332	RD 1/4T 3.3K-J
CR04	31018-277-220	RD 1/4T 22-J
PA01	32199-101-020	SC-05M
RIC04	32109-401-370	SAA1064/N2

Loc No	Supplier Part No.	Description	Loc No	Supplier Part No.	Description
SWA01	33609-101-003	JTM-1105B/KPT-1105A			
SWA02	33609-101-007	KPT-1105L			
SWA03	33609-101-007	KPT-1105L			
SWA04	33609-101-007	KPT-1105L			
SWA05	33609-101-007	KPT-1105L			
SWA06	33609-101-007	KPT-1105L			
SWA07	33609-101-007	KPT-1105L			
SWA08	33609-101-007	KPT-1105L			
6 . A S S Y - T R A N S M I T T E R					
PWB	33004-441-251	158X54X1.0T (S.N.A)			
XC01	31409-105-110	CC45 CH 50V 120-J			
XC02	31407-105-280	CC45 TAPG CH 50V 560-J			
XC03	31607-401-460	CE04W TAPG 16V 47M			
XD01	32167-406-480	1N4148 TAPG			
XD02	32167-406-480	1N4148 TAPG			
XD03	32309-101-090	CL-2(F)/SSIR-5D			
XIC01	32109-201-350	SAA3004P			
XQ01	32137-301-720	KSC 815-Y (TAPG)			
XR01	31018-277-279	RD 1/4T 2.7-J			
XR02	31018-277-279	RD 1/4T 2.7-J			
XZ01	34539-050-010	CSB455EBL/KBR455BKTLR			

MEMO

MTTS 2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XR02 47
XR03 2.7
9V
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XD02 RL1
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XC01 56
XC02 12
XC03 16V 47µ
VOL- CANCEL SA DN 7 ROT
BRIT- SUB SA UP 8 LIST
AV/TV BRIT+ HOLD 1 9 BROWSE
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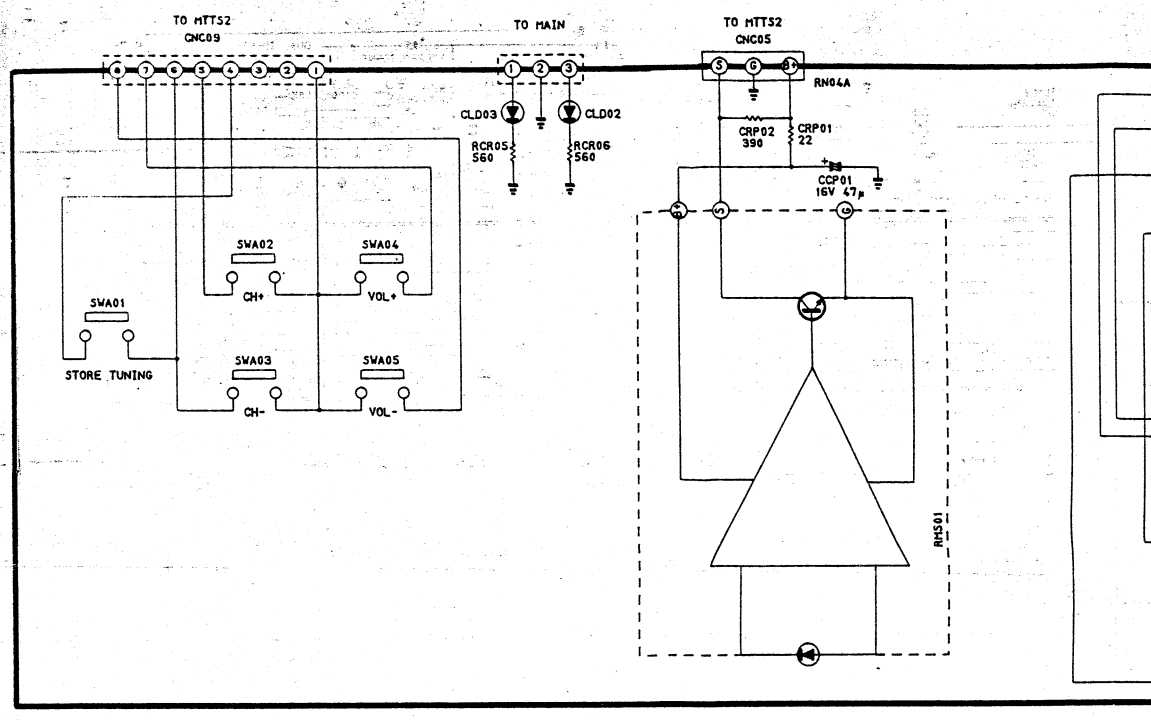
F+ SAT+ IPE 5 PIC A1
VOL+ MIX STORE 6 TEXT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TO MTT52 CNC05
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CRP01 22
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CLD03
CLD02
RCR05 560
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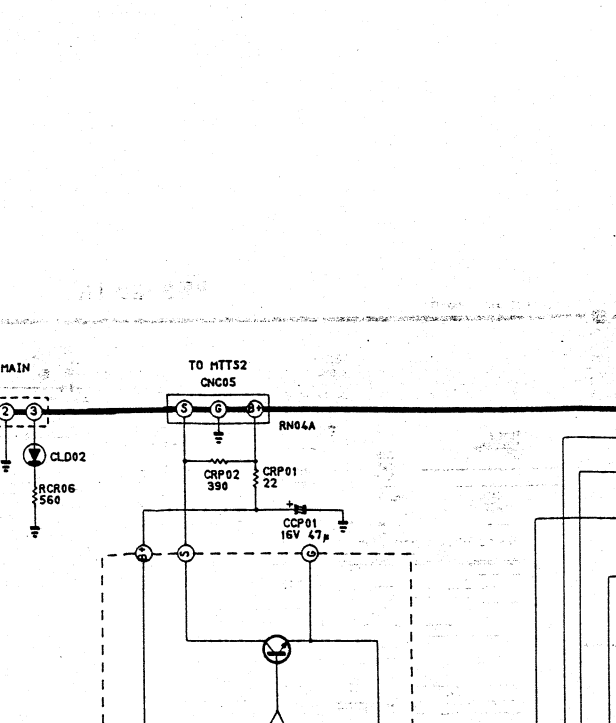
SWA01
STORE TUNING
SWA02
CH+
SWA04
VOL+
SWA03
CH-
SWA05
VOL-
RM501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TQ07 KSC815-Y
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TR28 15K
TR35 2K
TR34 10K
TIC02 5AA5231
TC26 50V0.47µ
TR21 1.2K
TC14 50V2.2µ
TC15 683
TC06 15
TC07 102
TC08 471
TC16 221
TR25 56K
12V
TC05 223
TC09 271
TC10 101
TR31 470
TC34 50V10µ
TC17 473
TC18 15
TC19 473
TC30 27
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TR26 330
TV01 40
TC11 15
TZ02 13.875MHZ
TC12 27
TL01 15µF
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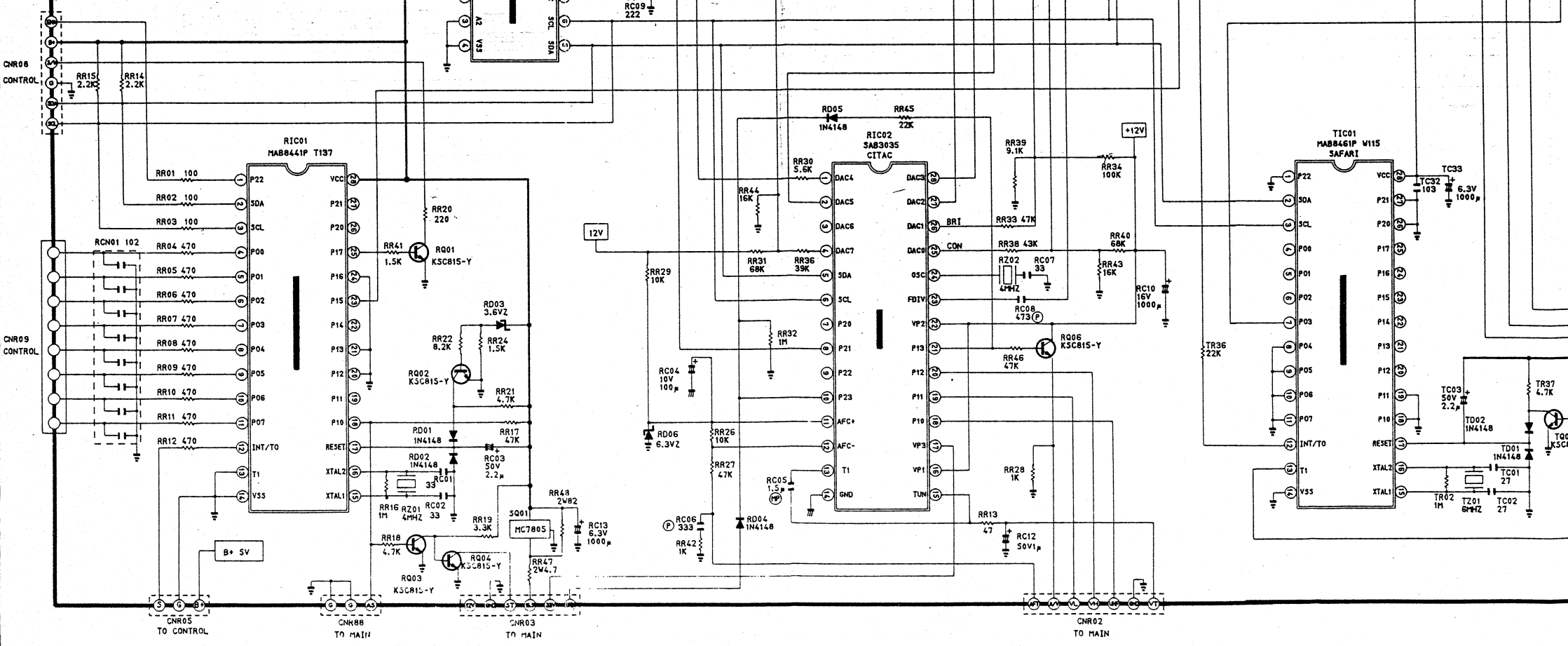
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TO TUNER RV01
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RR14 2.2K
RIC03 PCF8582P
RR25 10K
RC09 222
RIC01 MAB8441P T137
RR01 100
RR02 100
RR03 100
RR04 470
RR05 470
RR06 470
RR07 470
RR08 470
RR09 470
RR10 470
RR11 470
RR12 470
RCN01 102
CNR09 CONTROL
RR20 220
RR41 1.5K
RQ01 KSC815-Y
RD03 3.6VZ
RR22 8.2K
RR24 1.5K
RQ02 KSC815-Y
RR21 4.7K
RD01 1N4148
RR17 47K
RD02 1N4148
RC01 33
RC03 50V 2.2µ
RR16 1M
RZ01 4MHZ
RC02 33
RR48 2W82
RR19 3.3K
SQ01 MC7805
RC13 6.3V 1000µ
RR18 4.7K
RQ04 KSC815-Y
RQ03 KSC815-Y
RR47 2W4.7
B+ 5V
RD05 1N4148
RR45 22K
RIC02 5AB3035 CITAC
RR30 5.6K
RR44 16K
RR31 68K
RR36 39K
RR32 1M
RR29 10K
RC04 10V 100µ
RD06 6.3VZ
RR26 10K
RR27 47K
RC05 1.5µ
RC06 333
RR42 1K
RD04 1N4148
RR39 9.1K
RR34 100K
+12V
RR33 47K
RR38 43K
RR40 68K
RR43 16K
RZ02 4MHZ
RC07 33
RC08 473
RC10 16V 1000µ
RQ06 KSC815-Y
RR46 47K
RR28 1K
RR13 47
RC12 50V1µ
TIC01 MAB8461P W115 SAFARI
TC33
TC32 103
6.3V 1000µ
TR36 22K
TC03 50V 2.2µ
TD02 1N4148
TD01 1N4148
TR37 4.7K
TC01 27
TR02 1M
TZ01 6MHZ
TC02 27
CNR05 TO CONTROL
CNR88 TO MAIN
CNR03 TO MAIN
CNR02 TO MAIN

TO MAIN

TO MTTS2
CNC05

RN04A

CLD03

CLD02

RCR05
560

RCR06
560

CRP02
390

CRP01
22

CCP01
16V 47μ

RHS01

RIC04
SAA1061

RC02

RC03

RC05

RC06

RC07

RC04

RC08

RC01

RC10

RC09

RC14

RC15

RC13

RC16

RC12

RC11

16 OUT PUT

16-BIT LACH

SAA1061

CBUS RECEIVER & INPUT FORMAT CHECK

RC01-RC16 : 390x16

ENA

B+

S/W

GND

SDA

SCL

CNC08
TO MTTS2

CNR07

TQ07 KSC815-Y

TR33
2K

TR35 2K

TR34
10K

TQ08
KSC815-Y

TR27
56K

TIC02
SAA5231

TR28 15K

TC26
50V0.47μ

TR21
1.2K

TC14
50V2.2μ

TC15
683

TIC06
15

TC07
102

TC08
471

TC16
221

12V

TR25 56K

TC05
223

TC09
271

TC10
101

TR31
470

TC34
50V10μ

TC17
473

TC19
473

TC18
15

TZ03
6MHZ

TC30 TR29
27

TR26
330

TV01
40

TC11
15

TZ02
13.875MHZ

TC12
27

TL01
15μF

TIC04
KM6264AL-10
S-RAM

TC29
101

TC28
101

TR38
180

TD07
3.6V

TC24
103

TC23
16V
47μ

TC25
102

TIC03
SAA5243
ECCT

MEMORY INTERFACE

REFRESH AND GENERATOR SYNC

RAM CONTROL SIGNAL

RAM ADDRESS/ MUX-CONTROL

DATA ACQUISITION

TIMING

CHARACTER GENERATOR

I²C-BUS INTER-FACE

PIN30-40 RAM-ADDRESS

PIN22-29 RAM DATA

+12V

TIC01
MAB8461P W115
SAFARI

TC33
103

6.3V
1000μ

RR34
100K

RR40
68K

RR43
16K

RC10
16V
1000μ

TR36
22K

TC03
50V
2.2μ

TD02
1N4148

TD01
1N4148

TC01
27

TZ01
6MHZ

TC02
27

TR02
1M

TR37
4.7K

TR12
39(

TQ01
KSC815-Y

R04
.8K

TD03
3.6VZ

TD05
1N4148

TQ02
KSA539-Y

TR06
82K

TR05
10K

TD06
1N4148

TR07
4.7K

TQ03
KSC815-Y

TQ04
KSC815-Y

TQ05
KSC815-Y

TQ06
KSC815-Y

TR08
3.3K

TR12
3.3K

TR15
3.3K

TR18
2.2K

TR10
47

TR03
2.2K

TR13
47

TR09
2.2K

TR16
47

TR14
2.2K

TR19
47

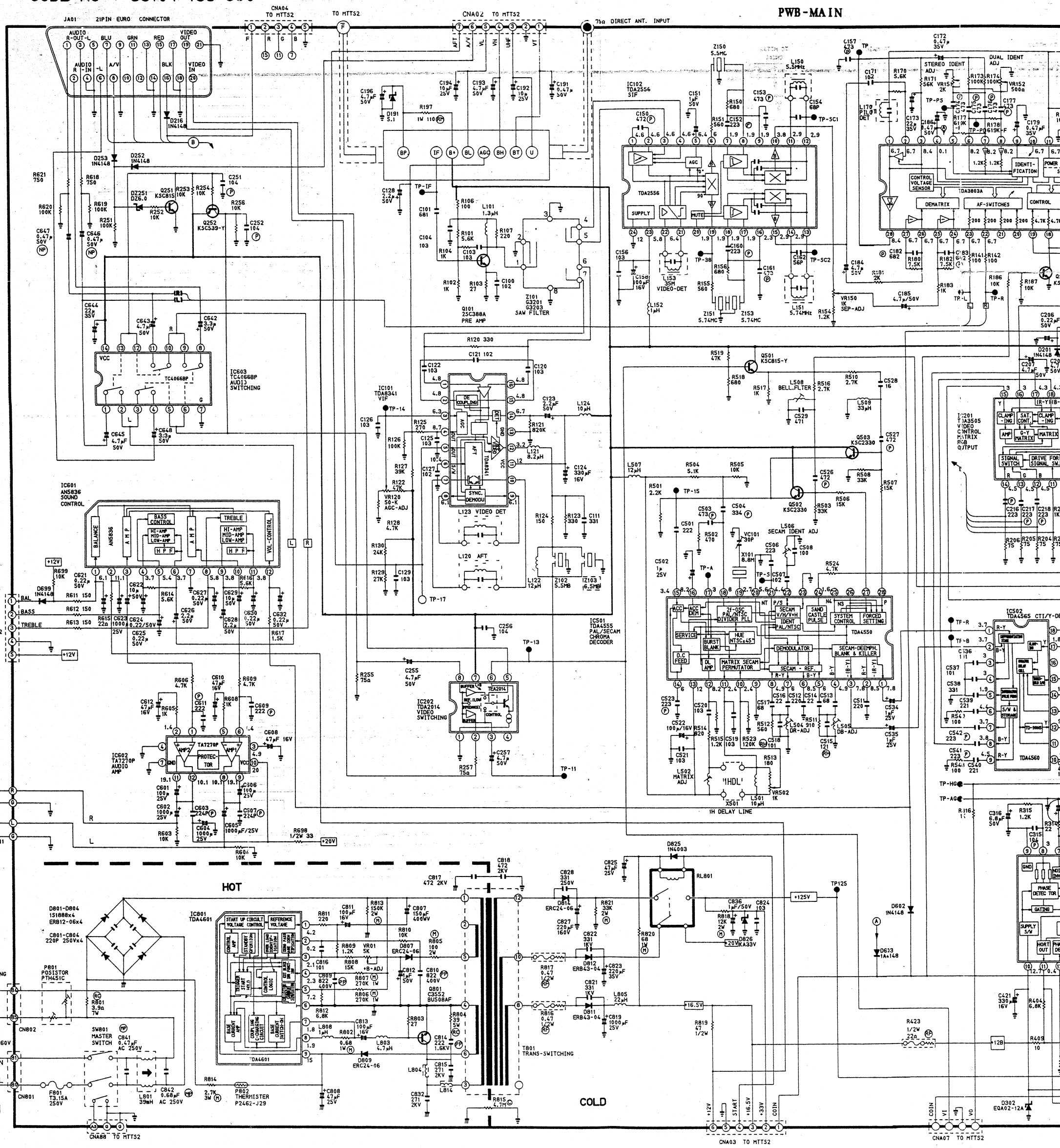
TR17
2.7K

CNR02
TO MAIN

CNR04
TO MAIN

CHASSIS NAME : P-88MT
CODE NO : 38104-183-550

PWB-MAIN



TP-11	TP-15	TP-R	PIN 15 OF IC201	TP-B	PIN 1 OF IC201	PIN 17 OF IC302	TP-P
2.3V p-p(H)	390mV p-p(H)	1.05V p-p(H)	550mV p-p(H)	1.33V p-p(H)	2.6V p-p(H)	12.0V p-p(H)	2.6V p-p(H)
TP-30	PIN V2 OF L407	TS-PS	TP-PD	PIN 3 OF IC201	PIN 2 OF IC201	PIN 15 OF IC302	PIN 11 OF IC501
1.0mV p-p(H)	50V p-p(H)	5.8V p-p(H)	5.0V p-p(H)	3.0V p-p(H)	2.8V p-p(H)	3.7V p-p(H)	1.3V p-p(H)

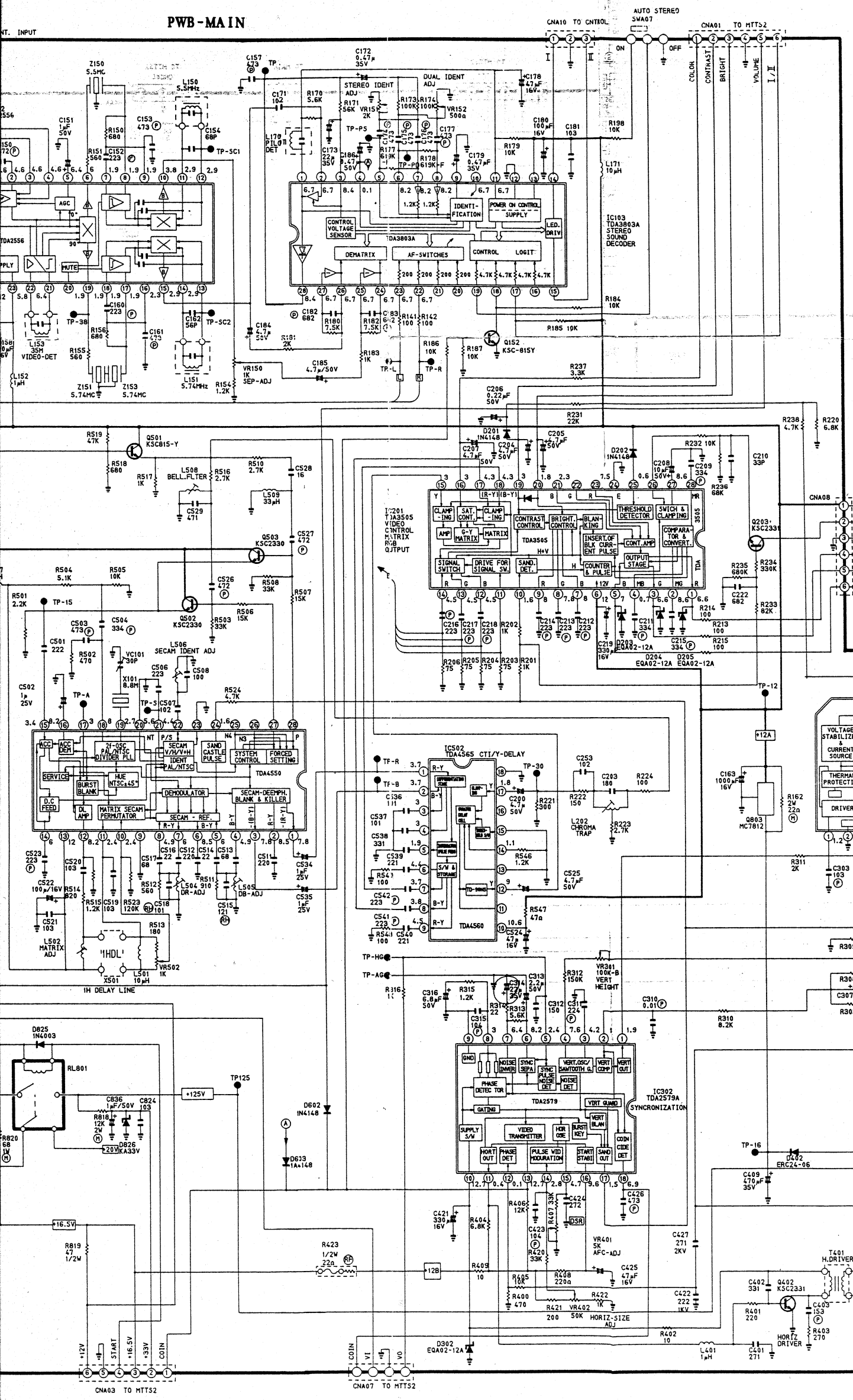
CAPACITOR	
TYPE	MARK
Ceramic	No Mark
Polyester	P
Tantalum	T
Metal Polyestor	MP
Polypropylene	P.P
Polyester Polypro	DSR
Chemical Electrolytic	
Chemical Non-Polar	

RESISTOR	
TYPE	MARK
Carbon Composition	C
Oxide Metal Film	M
Metal Film	RM
Cement	R-C
Variable Resistor	
Positive Resistor	

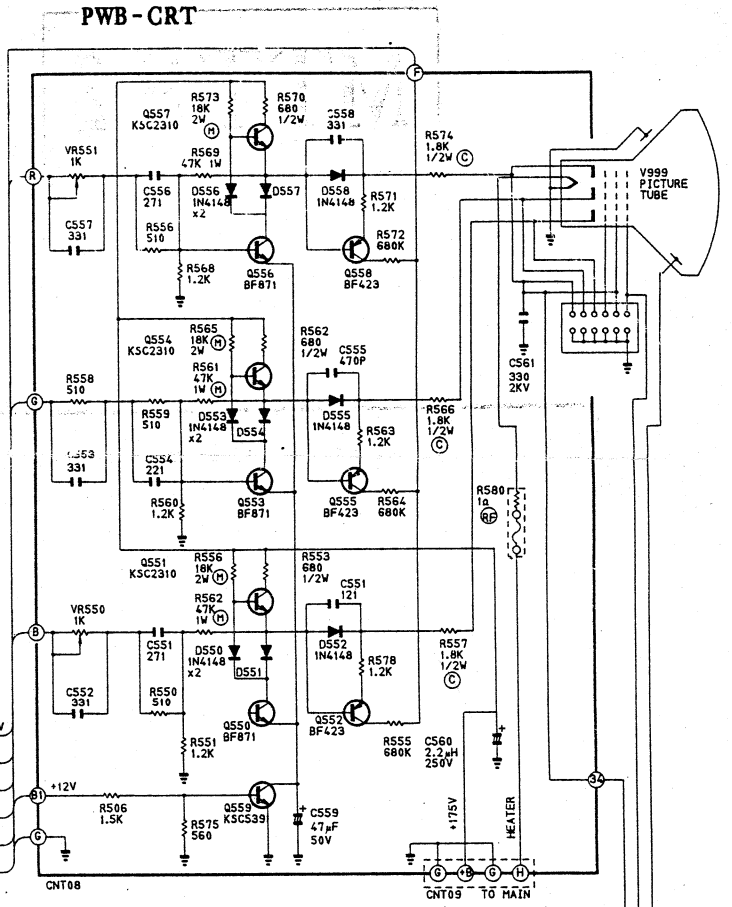
OBSERVATION OF VOLTAGES AND WAVEFORM

1 Voltages read with "VTVM" from point voltage 220/240V colour bar signal.
2 Voltages reading may vary ±20%.
3 The schematic shown is representativ
4 All wavefroms are taken using a vide capacity probe.
5 Check FINE TUNING,AGC,BRIGHTNESS,CONT best picture.
6 Waveforms are taken using a standard

PWB - MAIN



PWB - CRT



CAPACITOR	
TYPE	MARK
Ceramic	No Mark
Polyester	P
Tantalum	T
Polyestor	MP
Polypylene	P.P
Super Polypro	DSR
Aluminum Electrolytic	
Aluminum Non-Polar	

RESISTOR	
TYPE	MARK
Carbon Composition	C
Oxide Metal Film	M
Metal Film	RM
Cement	R-C
Variable Resistor	
Positive Resistor	

OBSERVATION OF VOLTAGES AND WAVEFORMS

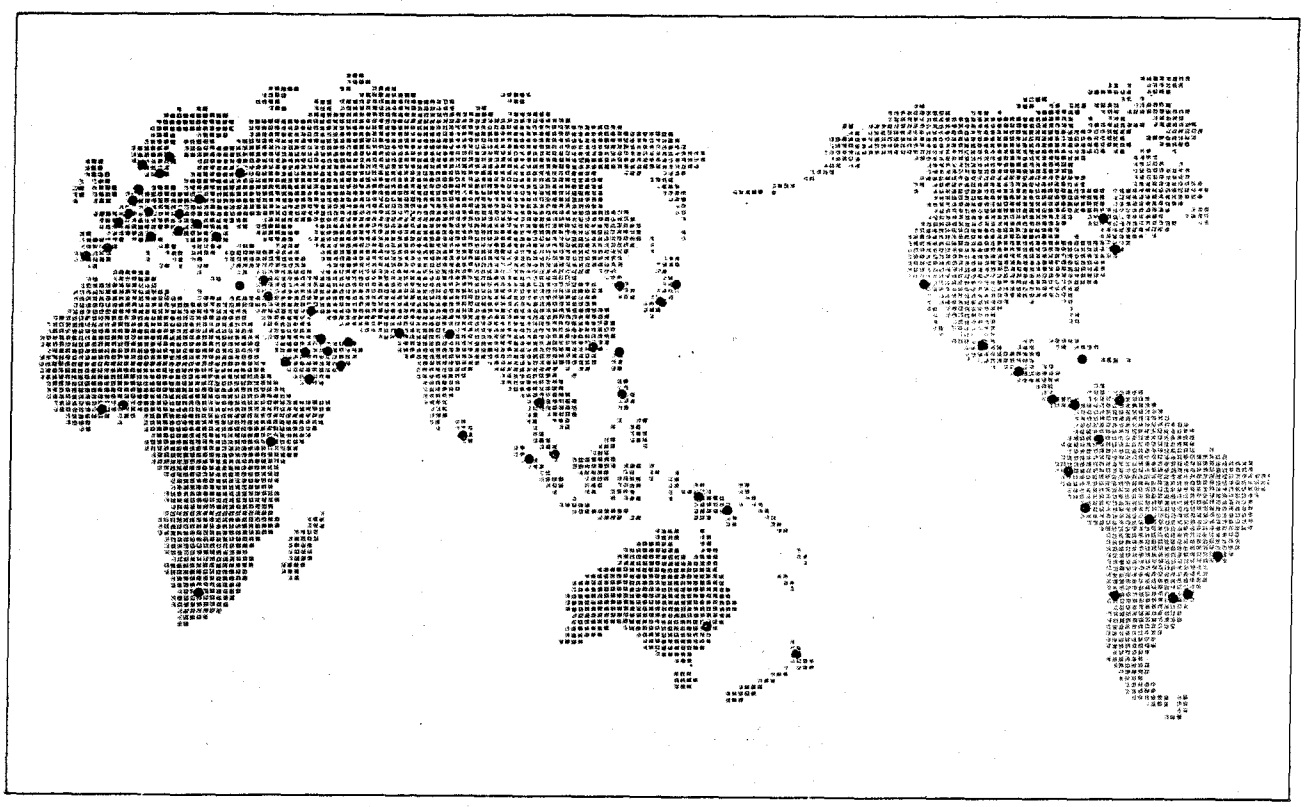
1. Voltages read with "VTVM" from point shown to chassis ground, line voltage 220/240V colour bar signal.
2. Voltages reading may vary ±20%.
3. The schematic shown is representative only.
4. All wavefroms are taken using a wide band oscilloscope and a low capacity probe.
5. Check FINE TUNING, AGC, BRIGHTNESS, CONTRAST, and COLOUR controls for best picture.
6. Waveforms are taken using a standard colour bar signal.

EXPRESSION

1. Resistance is shown ohm K=1,000 M=1,000,000.
2. Unless otherwise noted in schematic all capacitor values less than 1 are expressed in mfd, the values more than 1 in pF.
3. Unless otherwise noted in schematic all inductor values are expressed in uH, and the values less than 1 in mH.

NOTE

The circuits are subject to change without notice to improve the picture quality.



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